THE

FARMER'S MAGAZINE:

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(No. XXXVI.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Sir John Sinclair, Baronet.

SIR,

SIR JOSEPH BANKS, President of the Royal Society, having directed, for some time past, his particular attention to the diseases of wheat, I am extremely anxious to furnish him with any assistance in my power, in the prosecution of so important an inquiry, to the investigation of which he is so peculiarly competent. I have therefore to request, that any intelligent farmer, whose crops may have unfortunately suffered from mildew or otherwise, in the course of the present season, would have the goodness to transmit to me, answers to the queries which I beg leave to subjoin.

I remain,

Sir,

Your very obedient servant,

JOHN SINCLAIR.

Charlotte Square, Edinburgh,
31st August, 1808.

Queries regarding Mildew, and other Diſeaſes which affect Wheat, with Anſwers by the CONDUCTOR.

[The following Anſwers to the Queries regarding Mildew, &c. are reſpectfully ſubmitted to the conſideration of Sir John Sinclair, Baronet. It was thought to be the preferable way of anſwering the queries in the firſt inſtance, rather than inſerting them in one number, and anſwering them in another. Should any of our correſpondents be pleaſed, however, to furniſh additional anſwers, the ſame will inſtantly be publiſhed, ſo as the object of the worthy and patriotic Baronet may be attained in the moſt complete and ſatisfactory manner.]

Query 1. What do you apprehend occaſioned the blight, or mildew, in your crops of wheat?

Anſwer. That the wheat of crop 1808 was much injured in the end of ſummer, is an inconteſtable truth; but the cauſe of that injury is dubious and uncertain, and concerning which agriculturiſts hold different opinions. That mildew acted as the deſtroying agent in numerous inſtances, is univerſally acknowledged; but, that the defectiveneſs of the crop was, in every inſtance, attributable to mildew, may ſafely be queſtioned. Every field of wheat was more or leſs injured, yet the majority ſhowed no trace or veſtige of mildew. In fact, the general injury ſeems to have proceeded from the unhealthineſs of the atmoſphere at the time when the grain was in an embryo, or imperfect ſtate. Owing to that unhealthineſs, ſomething like abortion appears to have taken place in the parent plant, after the fœtus of the young grain was formed, which occaſioned many cups of the ear to be void, and deſtitute of ſubſtance. This deſcription will appear correct, when it is recollected that one ſide of the ear, and the whole top, were generally barren and empty, though every part had bloſſomed equally well, and promiſed to produce a numerous and healthy progeny. Even the grain which remained in ſe till it arrived at maturity, turned out to be of perfect or imperfect quality, according to the nature and condition of the ſoil upon which it was produced. Upon ſound healthy ſoils, where the plants were provided with ſtrong ſeminal and coronal roots, the grain was more deficient in quantity, than defective in quality. In ſuch ſituations, when abortion did not take place in the firſt inſtance, the young grain, from a regular ſupply of food, was enabled to reſiſt the ſtorms which beat upon and deſtroyed its weaker and worſe ſupplied neighbours. As happens with perſons of a ſound conſtitution, diſeaſe was ſucceſsfully reſiſted in many inſtances; and, though fewer grains than uſual were in the ear, even

even of the healthieſt plants, owing to the circumſtances already noticed, yet theſe grains remained in life; and, after paſſing through the proceſs of maturation, were ripened and harveſted in the moſt ſatisfactory manner.

What is here ſtated, is perhaps applicable to one half of the wheats of crop 1808. They were totally free of mildew, as was evident from the colour and texture of their ſtraw; but ſuffered in conſequence of exceſſive rains having fallen at a critical period of their growth, whereby barrenneſs in the ear neceſſarily followed. Though this barrenneſs occaſioned the produce to be ſhort, and greatly below an average, it did not impede the growth of the grain which remained in life; for the ſtraw, being healthy, allowed a regular ſupply of nouriſhment to be furniſhed from the root to the ear. Had mildew been upon the ſtraw, the caſe would have been otherwiſe. By that baneful diſeaſe, the circulation of the plant is ſtopped, in a degree proportional with the extent and ſeverity of the malady. A complete mildew prevents any further improvement, the grain pining and languiſhing till it aſſumes the ſhape of two ſkins without heart or kernel. Under a partial attack, when the parent plant has a portion of ſtrength left, the young grain thrives and advances in its growth, exactly according to the extent of its food: hence, when wheat is mildewed, ſo many different qualities of grain are obſervable, even in the ſame parcel.

From theſe ſtatements, it will appear that mildew was occaſioned, upon certain ſoils, by the influence of an unhealthy atmoſphere operating upon the plants at a period when they had become weak and ſickly. If we look back and reflect upon the nature of the weather which prevailed through July, and a conſiderable part of Auguſt, the correctneſs of the above propoſition will probably not be called in queſtion.

The month of July was exceſſively warm, more ſo than remembered by the oldeſt man living; and, from the beginning to the 20th of the month, the ſlighteſt moiſture, even in the evenings or mornings, was ſeldom perceivable. Owing to this uncommon heat, wheat plants, upon all ſoils not compoſed of clay or ſtrong loam, were in a manner at a ſtand, with reſpect to growth, being patched and enfeebled by the fierce rays of the ſun, while they were rarely cooled or refreſhed by a genial current of air; any wind which blowed for ſeveral weeks being ſo ſultry, that the evil was rather increaſed than diminiſhed by its effects. The ground, in conſequence of this intenſe ſunſhine, felt ſomething like a new burnt brick when taken from the kiln; of courſe, when the rains fell, a ſmoke iſſued from the ſurface like what proceeds from lime-ſhells when water is thrown upon them; and this exhalation of vapour continued, in a greater or leſſer degree, till the ſoil was completely ſaturated with moiſture.

Under theſe circumſtances, when putrid effluvia ſeemed to iſſue from every part of the ſurface, it was not to be expected that the wheat crop could eſcape from the danger with which it was encompaſſed. Apprehenſions were therefore entertained, that the fields already in a ſickly and declining ſtate, would fall the firſt victims to the peſtilence which raged in the atmoſphere; and the reſult ſhowed that theſe apprehenſions were too well founded; as, with the exception of the coaſt lands, preſerved by refreſhing air from the ſea, every field of the deſcription alluded to, namely, thoſe of ſoft loam, ſand, and thin clay mixed with peat-earth, was, in a greater or leſſer degree, attacked by mildew. Had not ſmooth chaffed wheats been generally ſown, it may be received almoſt as a certainty, that a ſingle field would not have eſcaped. We know of none of the thick chaffed or woolly-eared wheats but what fell victims to mildew in its moſt aggravated ſhape. As for the ſmooth chaffed varieties, their ſafety depended entirely upon the nature of the ſoil which they occupied, and their condition at the time when the rainy weather commenced.

Here it may be remarked, though mildew is a diſeaſe altogether unknown during dry weather, that perhaps it is only in dry ſeaſons its ſeverity is moſt ſtrikingly diſplayed, or its baneful conſequences moſt completely exemplified. In very warm and dry ſeaſons, ruſt often appears upon the ſtraw, brought on, it would ſeem, by the plants being ſtunted of nouriſhment, eſpecially thoſe occupying a ſoft or thin ſoil. Now, if humid weather ſets in when the plants are in this debilitated ſtate, and continues for any conſiderable length of time, the diſeaſe called mildew inevitably follows, as was fully proved this ſeaſon in numberleſs inſtances.

From what we have ſaid, a diſtinction may eaſily be drawn betwixt the diſeaſe called mildew, which may be conſidered as a mortal diſtemper, and the diſeaſe which this ſeaſon affected the one half of wheat fields, and which will neceſſarily affect wheat fields in every ſeaſon, when rain falls for any conſiderable length of time during the proceſs of maturation. Mildew rarely injures thin-chaffed wheats, unleſs they are previouſly hurt by ſome other cauſe. When the ſtraw is clean and healthy coloured—when the ear is yellow, and of a golden aſpect, it may with truth be pronounced, that mildew has not taken place, though barrenneſs may have occurred in the ear during the proceſſes of blooming and filling; but, when the ſtraw is black or diſcoloured, breaking eaſily into fragments when forcibly touched, and carrying an ear ſoft to the feel, and containing little ſubſtance, there is always ſolid cauſe to believe, that it has been viſited either by blight or by mildew, or perhaps by both diſorders. Blight, we conſider to be a diſeaſe which may ſeize upon the ſtalk at an early period, gene-

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rally before the bloſſoming proceſs takes place. Mildew, on the contrary, does not appear till the bloſſoming proceſs is completed, when the young grain is forming in the cups of the ear, which nature has prepared for its abode during the proceſs of maturation. If the ſtalk of the plant is attacked by mildew when in that ſtage, circulation ſtops immediately, and food for nouriſhing the young and tender grain is withheld and abſtracted. The extent of theſe evils is regulated very much by the ſtrength of the plants at the time of attack, by the nature of the ſoil on which they are produced, and not a little by the ſituation and expoſure of the field whereon they are cultivated. Generally ſpeaking, ſmall encloſures are more liable to blight and mildew than large ones; and fields with a ſouthern expoſure are more apt to receive diſeaſe, than thoſe lying in a contrary direction.

Query 2. When did mildew firſt make its appearance, and what was the progreſs?

Anſwer. The firſt violent and general rain was on the 24th July; and, in four days thereafter, it was diſcovered that the wheats were in a ſtate of danger. The earlieſt ſymptoms were recognized when a multitude of inſects took poſſeſſion of the ear of the plants, which they ſeemed to devour with the greateſt avidity. In this ſtage, mildew was not diſcernible, though a doubt cannot be entertained but that the ſeeds of diſeaſe were by that time ſown, which afterwards was to burſt forth with dreadful ſeverity. It is difficult to ſay how, or in what manner theſe inſects were produced, though it is believed that the warmneſs of the ground, when the rains commenced, joined to the ſultrineſs of the weather at the time, occaſioned, in ſome meaſure, a kind of putridity in all plants, and that inſects were thereby brought into action, ſomething in the ſame way as takes place upon every kind of decayed ſubſtance, whether animal or vegetable. But it was not upon fields where inſects were diſcerned, that mildew was afterwards found to be moſt prevalent. That fatal diſtemper was chiefly found in fields which were not lodged, eſpecially thoſe of a light ſoft ſoil, debilitated by the previous drought, and unable to bear up againſt its attacks. Few people were aware of the malady before the ſecond week of Auguſt, when the ſtraw aſſumed a blackiſh appearance; after which, the grain made no further improvement. In fact, the longer that it ſtood upon the ground, both ſtraw and grain ſeemed to become worſe, which gives cauſe to preſume that mildewed wheat ought to be cut as ſoon as poſſible after the diſeaſe is diſcovered.

Query 3. What was the ſtate of the weather when mildew firſt appeared, and during its progreſs?

Anſwer. The weather was exceſſively wet, from the 24th July to the 13th Auguſt; and, during the wetneſs, there was

not much wind; so that the crop on the ground was hardly one hour dry during the above period. The after dry weather, however, did not stop the progress of mildew. The disease, by the time of its arrival, had got such a hold of the plant as to render it incurable, though the fields free of mildew were undoubtedly greatly benefited by a return of sunshine and drought.

Query 4. Did you try any measures to prevent the progress of mildew, and were any of them of use?

Answer. To the best of our knowledge, no measure was attempted to prevent the progress of mildew; nor do we think that any thing can be done, to retard or impede the progress of that baneful disorder, after it has once appeared. Mildew, in fact, is a strong and violent consumption of the whole plant, which may, to a certain extent, be prevented, but cannot be removed, after the disease has taken fast hold of the patient. The only preventives which we know of are, thin sowing, and the use of the smooth-chaffed wheats. By thin sowing, the roots of the plant get a good hold of the ground, and send forth stronger stems or stalks, which resist adverse weather; and, by using smooth-chaffed wheats, moisture is in some measure prevented from lodging or hanging upon the ear, while the grain is better exposed to the air, and receives more benefit from sunshine, than if placed in a cup closely covered with a thick chaff, and deprived of these advantages.

Query 5. Did mildew attack particular soils; or was it universal over your whole crops of wheat?

Answer. The real mildew attacked particular soils, such as soft loams, poor gravels, and thin clays; soils, which neither contain much vegetable matter, nor are naturally calculated for producing good wheat crops. But the general disease which occasioned barrenness, even where the smallest traces of mildew were not discernible, prevailed upon every kind of soil, with the partial exception of some of the coast lands, which, it is presumed, were saved, as already mentioned, by the beneficial influence of sea-air counteracting the effects of an unhealthy atmosphere. Even half of the inland districts were, perhaps, free of blight and mildew, though no part of them were completely filled; nor even the very best so productive as might have been expected, had the wet weather not intervened.

Query 6. Did the disease attack particular kinds of wheat; or all sorts?

Answer. None of the thick-chaffed wheats escaped; but few of them, comparatively speaking, are now cultivated. The thin-chaffed wheats suffered in numerous instances, but chiefly

chiefly where the plants were previously stunted in their growth, by the violent drought which prevailed from 18th June to 20th July. The variety called *creeping wheat*, it is believed, met with no injury, owing to the strength of its roots. In some instances, the produce per acre of this variety doubled what was obtained from adjoining fields sown with the ordinary kind of seed, though of like soil, and equally well cultivated.

Query 7. Was your wheat sown in autumn, or spring; and did mildew attack both equally?

Answer. Nearly the whole of my wheat was sown in autumn, and the early part of winter; only a few acres being reserved for the spring season. I had very little mildew on any of it, though the whole turns out one fourth short of my usual produce. The acres sown in spring yielded wheat of good quality, though, like the rest, short in quantity. I had two fields of softish soil partially attacked by mildew. These fields blowed, or left the ground, during the April frosts, but filled up afterwards, though kept back in their growth by the tillering process. To this circumstance mildew may, with some truth, be attributed. The grain, of course, blossomed irregularly, and most of it was just set when the rains commenced; consequently, in that weak state, was easily cut off, or, at least, was subjected to injury, at a time when it had little ability to make resistance.

Query 8. Was any of your wheat of the bearded sort, which, it is said, is not liable to mildew?

Answer. I had no bearded wheat; nor would I sow that variety for a continuation of years, were I thereby to be guaranteed from mildew. This disease rarely prevails more than once in four years; therefore, the want of value in bearded wheat during the whole period, would be an excessive premium for security in the year wherein mildew appeared. The whole wheat which I had in crop was of the thin-chaffed sort, reared by that able and intelligent agriculturist Mr Hunter of Tynefield in East Lothian, which, to me, appears to be the safest and most productive of all the varieties that are cultivated. I have this year tried the *creeping wheat* on an improved moorish soil, chiefly on account of the character bestowed by those who are better acquainted with it, namely, that it keeps the ground, and is not so easily thrown out as many other varieties.

Query 9. Are your fields enclosed, or open; and were they both equally subject to the disorder?

Answer. My fields are all enclosed, though, as the enclosures are large, I am not inclined to place much stress upon that circumstance. So far as relates to my case, I may add, that the highest and most exposed fields were those that suffered most

injury; and, being of soft soil, the doctrine inculcated in a previous query is thereby supported and established, in so far as my experience and testimony can give it any weight.

Query 10. Was any part of your wheat crops exempted from disease; and if so, to what do you attribute that exemption?

Answer. Three-fourths of my wheat crop were perfectly free of mildew; and I can only attribute the exemption to the plants being in full health and vigour when the rainy weather commenced. The parts where mildew showed itself, were those of a soft soil, which, as already said, had thrown out the plants in April, and were in a languishing condition at the conclusion of the violent drought. Had the whole of my wheats been upon a similar soil, and in a similar condition, I apprehend that the like consequences would have happened to every field.

Query 11. Have you ever experienced mildews before upon your farm; and do you recollect any particular circumstances regarding those mildews?

Answer. I have repeatedly experienced mildew upon my farm, when the thick-chaffed wheats were customarily sown; but rarely since the varieties presently used were introduced. In 1782, I suffered severely from a series of rains in July and August; so did I in 1787, when I sowed only thick-chaffed wheat. But my greatest loss was in 1799, with the same kind of seed; which determined me to make a partial change; and the experience since gained caused me to give up thick-chaffed wheats altogether.

I recollect a particular circumstance in 1801, when the woolly-eared or thick-chaffed wheats were completely mildewed, though rains of any consequence did not fall at the time when the mildew appeared. One evening about the end of July, a little before sunset, a thick fog came off the sea, and hung, through the night, upon all the lower grounds. The fog was dispelled next morning by a hot sun, though without any wind; after which, the stalks or leaves of the plant assumed a contracted and frigid appearance. In a day or two thereafter, a kind of black ring seemed to surround the neck of the stalk immediately below the ear, which, of course, checked circulation, and impeded the progress of nourishment from the root to the ear. Under these circumstances, the whole plant became sickly and emaciated, and ultimately furnished grain of imperfect quality, besides causing a great shortcoming of quantity, when compared with wheat of the thin-chaffed varieties which grew on the same field.

Query 12. What was done with the crop; and how does the straw answer, either as food for cattle, or for litter?

Answer. All mildewed wheat necessarily furnishes flour of inferior

inferior quality; being hardly fit for baking into loaf-bread, and only calculated for biscuit and the like. The straw is also very poor food for cattle; its nutritive powers being exhausted and lost by the effects of disease. It may do tolerably well for litter, as, owing to its softness, moisture is absorbed with more facility; but, if made into dung by itself, the heap is of less value, in direct proportion to the degree of mildew which attacked the straw, and the period at which disease had appeared.

Query 13. Have your crops of wheat been attacked by the smut, or suffered from being lodged; and to what extent?

Answer. Smut is a very different disorder from blight or mildew, and arises from a defect in the parental seed; whereas the other diseases proceed from an unhealthy atmosphere, at a time when the plant is in particular stages of its growth. If wheat used for seed is sufficiently pickled, it matters little, so far as respects smut, what kind of weather happens afterwards, or whether the crop is lodged or not. None of these circumstances occasion smut; though it is very probable that, where sufficient pickling is neglected, smut may spread more widely in an adverse than in a favourable season. A certain class of agriculturists consider pickling of seed-wheat as a branch of the quack system, and bestow something like contempt upon those who practise it. The real practical farmer will not act in this way. He judges, that a practice sanctioned by long experience is not to be renounced, merely because its effect in preventing disease cannot be satisfactorily described. He acts correctly, when arguing from effect to cause, instead of reasoning against the utility of pickling, merely because his limited faculties are unable to comprehend how it operates as a preventive against smut. It is known for a certainty, that the steeping or sprinkling of seed-wheat with certain ingredients effectually prevents the crop from being smutted; therefore, he is a foolish man indeed who refuses to use those ingredients, for no better reason than that he cannot account how and in what way they are to be of benefit.

With regard to the other branch of the query, I answer, that a part of my wheat was lodged, nay, even locked to the ground; but that, except some sprouting, it did not appear to have received any material evil from these circumstances. In fact, the standing wheat seemed most injured; and, as already said, the chief injury was occasioned by the weakness and debility of the wheats upon certain soils, which disabled them from resisting the disease.

Query 14. Did the mildew attack any of your other crops; and, if it did, had it the same appearance and effects?

Answer. Some of the oat-fields were partially mildewed; but

mildewed; but oats, being a kind of aquatic plant, are not easily hurt even by excessive wetness. The late barleys also, in some instances, were considered to have suffered damage; but the bulk of this grain was completely out of danger before the rains arrived. Perhaps a want of sunshine and heat is alike detrimental to both wheat and barley, though, as the last-mentioned grain was further forward in growth than the wheat, when the wet weather set in, the loss sustained was proportionally much inferior. Had the rains been eight or ten days later in the season, it is highly probable that wheat would not have been more injured than barley. A delay of that extent would have permitted almost every field to be completely filled; and this being the case, no other danger could have arisen from wetness except sprouting, which, no doubt, of itself is a very serious evil.

Upon the whole, it deserves to be added, that the public are undoubtedly much obliged to the Honourable gentleman who has called their attention to a subject confessedly of the first importance; and it is to be hoped that, through his active exertions, a body of information will be gathered, sufficient to enlighten and instruct the farmer concerning the best and healthiest seed-wheat, and the way and manner in which that grain may be most successfully cultivated. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Smut and other Diseases in Wheat.

SIR,

IN the Thirty-third Number of your useful Magazine, page 16, I observe some important observations of Sir John Sinclair, Baronet, on the interesting subject, of making impartial and practical inquiry respecting the best kinds of seed wheat, and the cause of smut, and other diseases to which that grain is liable.

On this subject, particularly smut, many able pens have been employed; but, as yet, all have failed in finding out the true cause of that disease. Happily, however, a preventive has been found,* which, for a trifling expense, insures the most ignorant farmer against the baneful effects of its destructive influence. There is no doubt but that, if the real cause of smut in wheat was once found out, the necessity of pickling would be unnecessary, as it would only be requisite to remove the cause, and the effect of course would cease.

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* Pickling well with old stale chamber lee, and drying again with hot lime, is the most certain preventive that has been yet found out.

I cordially agree with the worthy Baronet, that old wheat used for seed is less liable to smut than new, and particularly if old thrashed; * but at the same time I must confess, that I have never yet been able to learn from my own practice, or from information that I could rely upon, that the use of old wheat is so sure a preventive against the smut as pickling; and I presume it is generally understood, that there is a greater risk in pickling old wheat than there is in new, particularly if it stands any length of time in the sacks between the time of pickling and sowing. † Old wheat being entirely deprived of its unripe moisture, and other dampness which new wheat is liable to, sucks in, or imbibes, too much of the pickle, and thereby kills the gum in both the diseased and healthy grains, which is not the case with new; for the healthy will not imbibe so much as to hurt the gum, whilst a small portion of the pickle destroys the diseased altogether, and leaves the strong to produce a healthy offspring. Therefore, I have always practised sowing new wheat in preference to old, as I never yet could come to the resolution of sowing wheat without pickling, (except a small quantity in making out a field, which I always found to be less or more smutted, and in one other case which I will mention afterwards), and can safely say, from a practice of thirty years, that I never suffered one shilling a year from smut, although a partial ear has sometimes been found in a field after common picklings; but whenever I was at the pains of washing clean, and swimming off all the light and diseased grains, previous to pickling, such a thing as a smutted ear could not be found by the most minute examination. ‡ In performing this operation, the wheat is put into a large tub, and covered well with water, stirring it with a broom, or any other thing that will clean the wheat, and make the light come to the top, which must be carefully skimmed off, changing the water until it comes off

* It is well known in some parts of the country, that oats are more liable to the smut upon some soils than upon others; in which case, old thrashed seed is less subject to the disease than new, although the seed be the same, and both grown in one field. Why not the same effect upon old thrashed wheat? I have seen the effects upon the former, but never tried it upon the latter.

† I have known a crop totally lost by pickling old wheat; but never knew young seed hurt in the least, although I have kept it several weeks between pickling and sowing; on which account alone, I always prefer new seed, and never omit pickling.

‡ I have known some use sea-water, and others common water with as much salt as to make an egg swim for a pickle, and have several times heard of its failing in preventing smut; from which it was concluded by those, that all pickling was uncertain.

off as clean as when put on, stirring and skimming every time the water is changed; after which, pickle in the common way.

I will just mention a circumstance that happened in my neighbourhood a few years ago, which shows the singular effect of washing and pickling wheat. A farmer who occupies a small farm, had his wheat so much smutted, that he had to apply to a neighbour for clean seed. His farm is a wet clay soil; and it happened that his land was ready, and the seed could not be got for a few days; from which cause, he was doubtful of losing the season, there being a great appearance of rain. In this case, a particular acquaintance of mine, and a great advocate for washing clean, as well as pickling, happened to come in the way, who advised him to take his own smutted wheat, and wash, swim, and pickle as above described, with particular injunctions to be careful in doing it well, which he did; but in sowing out the field, he wanted a small quantity, which he went and took from the same seed, and sowed it without either pickling or washing. The part of the field sown with seed washed and pickled, was, with the exception of a chance-ear, clear of smut; but, of the small quantity sown in its natural state, more than two thirds were infected. I have seen smutted wheat sown, after being pickled in the common way; but never knew any good effects, except in the case above mentioned. * From the many well attested facts the public have been favoured with respecting the utility of pickling seed wheat, I have often wondered that the practice, long ere now, has not become general over the whole kingdom.

I presume that good dressing is essentially necessary previous to pickling, when washing is omitted, by which means the unhealthy and diseased grains are separated from the strong. In this case, the pickle has only to act as an antidote against the infection of the disease, without running the risk of curing the diseased; but washing well and swimming, is the most effectual way of separating the clean from the unclean; therefore, I am of opinion that pickling, keeping for a considerable time in a heap between thrashing and sowing, and kiln-drying gently, all tend to produce the same effect, although not all powerful alike; for in all these cases it will be found, that the weak and diseased grains (which would vegetate and grow if deposited in the ground immediately after being thrashed, without being a little kiln-dried

* I do not mention this as advising any one to sow diseased seed. I only state the fact, that every farmer may be sensible of the utility in pickling seed wheat, and be proof against the dangerous doctrine of those, who assert that pickling is an old wife's fable.

ed or pickled) will be either effectually, or in proportion to the strength and time of these operations, deprived of their germinating powers, and never vegetate at all. The same reason holds good, whether the disease proceeds from an insect produced in the grain, possessing animal life, whilst the blade is growing, and the ear forming, or from some unsoundness in the grain itself at the time of sowing, which produces the disease in the vegetable life of the plant; for, as I have said before, the pickle kills the unsound grain, whilst it has the same effect in destroying the animal life of the insect.

I have often thought that if perfect, good, healthy and sound seed were constantly sown, whether old or new, smut would scarcely dare to make its appearance. From extensive practice, it appears plain to me, that the disease proceeds from the grain, and not from any aerial influence. But I am intruding too long upon your valuable pages; therefore will conclude, by shortly mentioning a circumstance which occurred in my own practice, as to the importance of good seed.

In the early part of my life, I lived about twenty miles from the city of Carlisle (in Cumberland), at which place there was a good weekly corn market, particularly for seed wheat at the season. The farmers in the neighbourhood vied with each other, who could show the best seed wheat, and bring the highest price; consequently it was well dressed, and handled correctly in every respect. To this market my father made it a practice to go and purchase a small quantity of wheat every year, for change of seed, which was sown as it came from the market, without pickling. The price was not much regarded if the article pleased; and I can say, from his information, and my own experience for upwards of thirty years, that there was scarcely a smutted ear to be seen in the crop, which was taken for seed next year and pickled. Therefore, being provided with such practical information, I would only have myself to blame, in being the acting cause of suffering a crop of wheat to be smutted.

As to the blight and mildew, I cannot say much from practical knowledge; but, from what I have seen, will venture to hazard my opinion and say, that smut, mildew and blight, all proceed from different causes. Smut, as I have said before, from the seed; * mildew from the influence of the weather, and other local circumstances; and blight from various causes, namely,

* It being still granted, that there is a previous cause which produces the effect in the seed; and I humbly presume that some land, and even some seasons, has a greater tendency to produce the cause than others.

ly, the state of the land, seed not properly adapted to the soil and climate; or from some particular kind of weather at a certain period of the crop, when joined by the other causes; or from improper cropping with that grain. I have often seen injudicious cropping with wheat produce blight, and particularly if due attention was not paid to intervening crops. I have also seen two kinds of seed in one field, the one blighted and the other not; and, upon parts differently cultivated, the one blighted and the other not, though both were in the same field.

The subject being of great importance, I would like to see it investigated by some one more able for the task than myself; as the more I know of practical farming, the more I am satisfied that additional information is necessary, before we can argue with precision concerning the diseases of wheat; and as this grain is now cultivated on a large scale in almost every quarter of the island, the utility of investigation needs no demonstration. I am, &c.

A Lanarkshire Farmer.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations concerning Limestone and Limestone Gravel.

Sir,

You can give the subjoined observations a place in your Magazine, if you think them worthy of it; and if they are so fortunate as to meet your approbation, and that of the public, I may probably, at some future period, trouble you with the fruit of my reflections on other subjects connected with agriculture. You will readily perceive that I am not in the habit of writing for the press; but, if I am sufficiently understood, it is all I aim at.

The benefit of any substance used as a manure, must in all probability depend, in a great measure, on its solubility in water. Had the Highland Society attended to this, I think it probable they never would have offered a premium for the invention of a machine for pounding limestone, and reducing it to the ordinary size of calcareous gravel. We know that quicklime is completely soluble in water; and though, indeed, in common language, limestone is held to be insoluble in water or in air, yet experience seems to prove, that it does undergo a gradual, but very slow decomposition, from the united action of both. I am not ignorant that quicklime will gradually saturate itself with carbonic acid, if exposed to the atmosphere, when it will no longer be soluble in water; and that, even after it has been dissolved in water,

ter, it will, by attracting the same principle, separate itself from that combination, in the form of an insoluble compound; but, from its solubility in water, a great part of the quicklime will, in the first place, be much more intimately diffused through the soil; nor will it, when ploughed into the ground, be speedily saturated with carbonic acid, as its communication with the air will be in a great measure cut off. I am also aware, that limestone gravel may enter into combination with many other substances it may meet with in the soil; but quicklime has this advantage, I suppose, in at least an equal degree, besides the great advantage mentioned above. * We also know, that all substances enter into combination with others the more readily, in proportion as their parts are more intimately divided. No mechanical action can divide the parts of limestone in any degree equal to what takes place on slaking lime properly burned. And this leads me to make a remark of much practical utility, which, so far as I know, has escaped writers on agriculture, and farmers in general, viz. that, supposing a farmer to be situated near two lime quarries, the stone of one of which affords, by analysis, 80 *per cent.* of carbonate of lime, or pure limestone, and that of the other 98, and putting the difference of carriage out of the question; or, supposing both to be laid down in heaps upon his field, at a price in exact proportion to their different qualities, that is to say, when 100 bolls of the one should cost ninety-eight half-crowns, 100 bolls of the other should cost only eighty;—yet would the purchaser of the inferior lime be a very considerable loser; because coarse limestone, when burned, does not fall, upon being slaked, into nearly so fine a powder as that of a superior quality, and cannot, therefore, so readily enter into combination with the different principles in the soil. If it could be supposed to do so, however, in any reasonable length of time, it would in some respects appear to be little more than the loss of the interest of the money; but the truth, I am afraid, is, that a great part of it is buried below the reach of vegetation, before it operates at all. Had farmers been in the habit of attending to the *rationale*

* Will not quicklime combine with animal and vegetable oils, to form a compound something of the nature of soap soluble in water? and might not advantage be taken of this circumstance, in forming composts with such substances as the refuse of whale blubber, &c.? and may not its tendency to combine in this way with the oleaginous particles it may meet with in the soil, be one cause of the fertility induced by it? At any rate, nothing appears to me more ridiculous, than attributing all the effects of lime to a stimulating power, as I am convinced it operates, of itself, as a powerful manure, both alone and in its combinations.

rationale of the matter, we should never have heard them talk of preparing a coarser lime, upon the absurd principle of its remaining longer in the ground.

From what I have said, however, I by no means wish it to be understood that I think limestone gravel, when it is found naturally, may not be advantageously used as a manure, but merely that it will probably never be found eligible to reduce limestone to that state by mechanical means; and also, that it would be found of great advantage to those parts of the country where limestone gravel is found, if a cheap method of burning or calcining it could be pointed out. Living some years ago in a part of the country where limestone gravel as well as limestone was abundant, and observing that, when peats were used as fuel, the limestones were broken proportionally small, on account of the less intensity or continuance of the heat, and knowing, *a priori*, that the more intimately any substance is divided, the more powerfully will it be acted upon by any chemical agent, it occurred to me, that many poor tenants in that part of the country (a Highland district) might avail themselves of a knowledge of this circumstance, in all probability, to supply themselves with a good manure at a very cheap rate, by burning the limestone gravel in kilns built of feal or sods, either with sods, or such coarse peats as were unfit for burning limestone, and driving out the whole (kiln and all) upon the field as a manure. It occurred to me further, that as the best method of improving heathy or rough sward is by paring and burning, if the limestone gravel were spread upon such ground a year previous to the operation, it would become, in that time, by the action of the rains, and the progress of vegetation, so intermixed with the roots of the plants, as not to be separated from the turf in the different processes of paring and drying, and that the heat produced in burning the heaps, if made pretty large, would probably be sufficient for calcining the limestone gravel, or at least the greater part of it. I communicated my opinion upon the subject at the time (the autumn of 1802) to a gentleman whom I thought a good deal interested in the matter; adding, that it appeared to me that such a mode of proceeding as the last would make a good preparation for turnips, without any other manure, and advising him to try the experiment upon a small scale; and, if it did not succeed, the loss would be trifling, and, if it did, the advantage great. I intended also to have made the experiment myself; but circumstances soon after occasioning my removal from that part of the country, it has never since been in my power; nor do I know whether or not it was ever made by the much respected friend (now no more) alluded to above. I think it probable, however, that it would be found

found to answer; and, of course, that it might be productive of great advantage in many situations. * A. B.

Kincardineshire, Dec. 25. 1806.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On a Disorder which affects Cattle.

SIR,

IT would be doing me a favour, if some one of your correspondents, who have studied the diseases of cattle, would favour the public, through the medium of your valuable Magazine, with some account of the cause, nature, and cure of a disorder, which, for these last two years, has affected several of my young cattle of two and three years old, and for a description of which I have in vain searched in some of those books which treat professedly of the diseases of cattle. It would seem to be seated in the glands of the throat, and appears in one or more very large hard tumours, which never come to suppuration, but are filled with a solid substance very much resembling the kernels at the root of a bullock's tongue. They do not appear to occasion any pain or inconvenience to the animal, except an itchiness and desire to rub, which still further disfigures it, by often breaking the skin, and exhibiting the throat all bloody. Indeed, those of mine who have been thus affected, have continued to thrive and fatten equally well with the rest. But it must be obvious, that they are totally unfit to appear with others in a market. Several of my neighbour farmers have suffered in their stock by the same complaint, and are equally ignorant with myself, and desirous to be informed of the proper mode of treating it. I am, &c.

October 31. 1807. A READER.

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* Calcareous gravel, wherever it is found, might certainly be calcined with coarse peats, brushwood, or any kind of furze; as, though a certain intensity of heat may be necessary, yet it would require to be only of moderate duration, (see Watson's Chemical Essays, vol. II.) This would particularly be of much consequence when it was to be carried to any distance, as a much smaller quantity would be necessary, and the weight of that quantity would also be much diminished. As it could also be spread and ploughed in without being slaked, it might be of advantage, in stiff soils, not only by dividing and pulverizing them by its mechanical action, but also by absorbing part of their superfluous moisture.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the View of Perthshire Husbandry.

SIR,

YOUR correspondent, on Perthshire Husbandry, (Vol. VIII. p. 425.) seems to be a sensible man in his own profession; but, when he ventures beyond it, he certainly lays himself open to criticism. Some of the remarks that occurred to me, upon reading his Essay, I committed to writing; and if you think them worthy a place in your Magazine, they are very much at your service.

He says, 'It seems to be the opinion of some people, that the climate of Scotland has become much less genial than formerly; and, in support of this hypothesis, they argue, that many kinds of vegetables have grown in situations where they cannot now exist. For instance, the remains of forests are discovered on hills, sea-shores, and under mosses, where the exposure is such that a tree will not now thrive; and ploughed ridges are found in many places so elevated, that no species of grain presently cultivated will ripen. These are well authenticated facts. But, without recurring to periods so remote, most old people assert, that, in their youth, the summer season was perceptibly warmer; in particular that, in the month of May, the heat was commonly so intense that farmers were obliged to plough in the morning, so as to have their work over by eight or nine o'clock.' This gentleman seems to have got into a cant very common among people now-a-days, of a general deterioration of the climate of this country, and of a sad decay in the morals of the nation. Were credit to be given to these croakers, many of the present generation may live to see this island wrapt up in the snows of eternal winter, and the inhabitants themselves abandoned to every species of vice and debauchery. This is all very well in the way of declamation; but let us try the hypothesis by the sober test of reasoning. This gentleman ought to have recollected that, as the assertion of a deterioration of climate is broad and unqualified, the proof adduced in evidence should have been equally so. If, in order to prove the fact of a hundred men being killed in an engagement, an eye-witness states that he saw fifty of them fall, his evidence is certainly true to the extent of that number; but the other half may, for aught he knows, be still alive and in good health. In the present instance, your friend makes an assertion which comprehends the whole of the island; and therefore, the effects of this supposed growing rigour in the climate ought to appear in every district of the country, in every acre of that district. But

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his proof, instead of being as broad and unqualified as the fact itself, is in the highest degree partial and local. The very symptoms themselves, on which he rests so improbable a theory, may be accounted for satisfactorily in another way, and may be traced to causes of a different description altogether. Even supposing that 'the remains of forests are discovered on hills, seashores, and under mosses, where the exposure is such that a tree will not now thrive,' still, it does not necessarily follow, that our climate has become less genial and warm. It may no doubt be true that, in the situations alluded to, trees will not, from particular circumstances, thrive in the present day; but still the climate, upon the whole, may be at least as genial as heretofore. Perhaps, in these situations, the exposure, from some local cause or another, has been rendered less friendly to the growth of trees; but still they may, and we all know that they do grow in other places, as well, if not better now, than they ever did in former times. Giving his fact of an increase of rigour all the credit it can possibly demand, still nothing more is established than an increase of rigour in these particular instances. The very circumstance of an accumulation of moss in the neighbourhood of the site of an antient forest, is, of itself, a sufficient reason why trees will not now thrive in that quarter. The effect, however, of these mosses is but partial and limited in its operation. But, even admitting that the vestiges of forests have been discovered upon the tops of hills and elsewhere, he ought to have furnished your readers with a proof of these plantations having been attempted in these places now, and that they have never succeeded. When a country is wholly covered with wood, trees will, by reason of the superior shelter, grow everywhere. But is that fact any proof of a greater warmth of climate in that age of forests? America, when first discovered, was one vast forest; but surely, in proportion as the woods came to be cut down, and the ground brought under a refined cultivation, the climate will be in a progressive state of melioration. Your correspondent does not mean to insinuate that the mosses, under which forests are said to have been discovered, were mosses before the existence of these forests. The fact of the matter is, that the mosses are the result of the fall of these woods; and a coldness and humidity arising from the surface, is the reason of trees not now growing in their neighbourhood. Their thriving in the bosom of the mosses themselves is totally out of the question; and, had the mosses existed previous to the forests in former times, this gentleman would not now be lamenting their decline and fall.

It is very true, that ploughed ridges may be seen in very elevated places; but still, it does not follow that grain will not now

thrive in so high a latitude. I admit the fact, but deny the legitimacy of the inference. In the infancy of agriculture, farmers, from the circumstance of a want of manure, were naturally led to plough up every field, however elevated, to which that instrument could have access. Having little or no artificial dung to lay upon the land, they were under the necessity of cropping every inch of ground that had been lying in pasture; and it was afterwards allowed to remain in that situation, until the bountiful hand of nature had restored it in some degree to a comparative state of fertility. Indeed, this wretched mode of farming is very common in some of the worst districts, even in the present day. Under better management, the farmer now ploughs no more than what he has dung for; and the remainder lyes in pasture. By this means, the plough is confined to the low-lying land; and the tops of hills are never ploughed at all. It is because the hill ground is not adapted to the growth of corn *so well* as the low ground, that it is not kept under tillage, and not because corn will not grow *at all*. Some old stupid people are still in the habit of ploughing the high ground; but this fact, instead of proving a deterioration of climate, merely shows that they are bad farmers. Your correspondent would seem to infer, from a state of bad farming, the fact of a more genial climate; and a more rigorous atmosphere, from an improved state of agriculture. One would think, however, that if any inference can be drawn at all, it ought to be quite the reverse. But the truth is, that it goes merely to establish a fact in the progress of agriculture, and nothing as to the state of the climate.

It is really wonderful that a person, with the smallest pretensions to common sense, would appeal to the feelings of old people, men or women, no matter which, in support of a particular fact. There is nothing upon which so little dependence can be put as the sensations of individuals; and, on the other hand, nothing so fixed and determined as the laws of nature. Old people look back upon the past with regret, in proportion as they advance towards the evening of life; and young folks, upon the other hand, contemplate the future with a pleasure proportionate to the length of the career they have yet to run. The views of both are regulated, not by a deliberate consideration of the thing itself, but precisely as they happen to feel at the moment. It would therefore be strange that the phenomena of the physical world, whose appearances are so regular and systematic, should be tried by a standard so capricious and inconstant as the feelings of the human frame.

The only legitimate method of ascertaining the fact of an increase of rigour in the climate of this country, is by a series of meteorological

meteorological observations for the space of a century back. By this examination, the thing is put to the test by its very self; and if it does appear that the climate has become less genial than heretofore, we must, of course, admit the fact. All the appearances, however, stated by your correspondent, and all the arguments maintained by him and others, may be explained upon principles which do not suppose an increasing rigour; and therefore, they are inconclusive. With an increasing cultivation all over the world, upon which heat and cold so much depend, the probability is that the climate of the country is in a progressive state of improvement; and nothing but the most positive evidence to the contrary ought to have the smallest weight upon the question. This proof your correspondent has not produced; and therefore, his case is not made out to the satisfaction of those who at all look for accuracy in matters of reasoning.

Your correspondent details a variety of causes for the late rise in the rent of land; but, after all, he does not think they are sufficient to account wholly for the effect. 'It can only be accounted for, (says he) by the high price which grain has maintained for several years in the north of Europe, and by a greater number of people possessing capital sufficient for stocking a farm than formerly, who can turn to no other employment.' It does not seem to be attended to, by people who pretend to talk upon the subject, that the price of grain in England must, in some measure, be influenced by that of Poland, or any other country in Europe. We all know that the grain market of London, Liverpool and Glasgow, reciprocally act upon each other; and that there exists, at all times, a relative cheapness or dearness among these different markets. The same thing takes place, more or less, over all the different markets of Europe, and of the world. The law of gravitation in the physical world is not more true than that of a level in the price of grain. Upon this principle, therefore, if the price of grain be in England as 3 to 1 in Poland, at any particular period, say in the 1783, it will be as 9 in the 1808, if the grain in Poland rises to 3. These numbers are used in an arbitrary way; but they will sufficiently illustrate the principle, and establish the truth of it, beyond the shadow of a doubt.

To those who at all reflect upon the subject, the price of grain, or, in other words, the value of money, is always in proportion to the wealth of the particular country of which we may be talking at the time. By the wealth of a country I mean its industry: For example, Great Britain is a rich country; and Spain, though possessing all the mines of Mexico and Peru, is a poor one. Grain, agreeable to this remark, is therefore dearer in this island than in that part of the continent of Europe. This fact is true all the world over;

and, were it not abundantly obvious, I would trouble you with a variety of reaſons in explanation. Now, if, at a particular degree of induſtry in Spain, the price of grain be in that country 1, it will, at leaſt, double the price when the induſtrial thermometer riſes to 2. This riſe, again, in the price of grain in Spain, acts upon the Engliſh market; and, according to the foregoing principle, elevates the price of grain there. In proportion, therefore, as grain riſes in Spain, or in other parts of Europe, it muſt neceſſarily riſe alſo in England.

As the induſtry of the world is daily upon the increaſe, notwithſtanding of the obſtacles which at preſent weigh it down, the value of money all over the globe will depreciate, as it has already done in this country. It is our induſtry alone to which the fall is to be attributed; and the ſame reſult will be as extenſive as the univerſality of the cauſe. If the nations of Europe, inſtead of cutting one another's throats, would apply themſelves ſeriouſly to the cultivation of the arts of peace, the induſtry of the world would be increaſed a hundred fold; and the effect I have juſt now mentioned, would take place to a degree, of which, at preſent, we have not the ſmalleſt idea. From this univerſal induſtry would reſult a correſponding depreciation in the value of money over Europe; and more remarkably in England, in proportion to the ſuperiority of its induſtry. In the activity of theſe principles, it is not difficult to diſcover a long perſpective of a great and indefinite riſe in the rent of land in this country, ſufficient to lull aſleep the fears of the moſt deſponding. Your correſpondent ſeems to have a confuſed idea of what I have juſt been ſaying; but the late high price of grain in the north of Europe, inſtead of being temporary, as he ſuppoſes, is as permanent as the cauſe which gave it birth.

The other cauſe of the riſe of rent mentioned by your correſpondent, is moſt juſt, if it were properly expreſſed, and unaccompanied by an after-obſervation of that gentleman. Inſtead of attributing the effect to a greater number of competitors, with more capital than formerly, had he accounted for it by the exiſtence of the capital ſimply, he would have been ſpeaking as accurately, and with more ſimplicity. An augmentation of capital ſuppoſes an increaſe in the number of perſons poſſeſſing it; and when an idea can be expreſſed by one ſentence, it is more philoſophical than to do it by means of a greater number. But this is not the only error into which he has fallen. He not merely ſuppoſes that a greater number of competitors have come into the field, but that they had not the power to go into any other employment than that of farming. Were this the fact, it would prove that the late riſe of rents has been unnatural, and therefore will

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not laſt. But this gentleman ought to know, that, if the fact intended to be eſtabliſhed is of importance, the proof of it muſt be equally complete, to ſatisfy the underſtanding of a rational reader. He brings, however, not the ſmalleſt evidence in ſupport of the aſſertion. He ought to have known, that this will not paſs among people who uſe the little underſtanding that God has given them; and that it is as eaſy for another to make an aſſertion directly in the teeth of it. The one would go, of courſe, for the other, and the fact be as doubtful as ever. Were the aſſertion of your correſpondent well-founded, we would have the abſurd anomaly of a compulſory inveſtment of capital into a particular branch of trade produced by the voluntary act of individuals. Nothing, however, but force would make people embark their capital in a trade which muſt be ruinous, from its being previouſly overſtocked. To ſay that a compulſory act is the voluntary work of individuals, is not more abſurd than to contend that Bonaparte's conſcripts are compoſed entirely of volunteers. Beſides, I never heard till this moment that all the employments in Scotland were full of hands; and that capital can find no room for its activity but in agriculture. In the northern part of the iſland, at leaſt, hitherto in leading-ſtrings, there are a variety of profeſſions in which a man may find employment. Was this gentleman a merchant or manufacturer, he would know that capital was a very ſcarce article, and one of the greateſt difficulties he would have to contend with. But, even ſuppoſing that agricultural capital was overabundant, it does not follow that no advantageous uſe can be made of it. Some neighbouring manufacturer may very probably be in want of a loan of 10,000l., and will give this capitaliſt ſatisfactory ſecurity for the uſe of it. Until, therefore, every trade has an overflowing capital, the monied agriculturiſt, if he declines being a manufacturer himſelf, may employ it to advantage upon a loan, and become one of that claſs of people in ſociety called monied men. Hitherto, this ſort of gentry have been abundantly ſcarce in this country;—*rara avis in terra.*

That landlords may have been ſurpriſed, and agreeably too, at the late riſe of rents, may be very true; but it proves nothing more but their ignorance of the cauſes upon which this riſe depends. Proprietors have had their nights of ignorance, as well as their tenants. But as the cauſes of the riſe come to be ſtudied, this fooliſh wonder will very ſoon ceaſe, not merely among the landlords, but alſo among the cultivators of the ground.

It is ridiculous for your correſpondent to ſay, that an induſtrious tenant could not make money upon a farm which was, upon his leaving it, let at five times the rent. If he really was induſtrious, he muſt have been a born idiot, and was certainly in-

tended, by education and habits, to be nothing more than a day-labourer. A man may be a very induſtrious farm-ſervant, who would make but an exceeding ſorry farmer. In the one, mere manual labour is all that is required; but, in the other, induſtry, knowledge and capital muſt be combined. Indeed, it is to the union of theſe three in the perſon of the modern farmer, that almoſt the whole of the late improvements in agriculture are to be traced. The farmer of former times may have been as induſtrious as thoſe of the preſent day; but much of it was waſted by a want of knowledge, and much of it lay aſleep by a lack of capital. By means of induſtry, land may no doubt be ploughed; but knowledge alone will tell the farmer that wheat and potatoes is the moſt productive mode of managing it; and capital alone will enable him to accompliſh the work. The poor and ignorant tenant of your correſpondent keeps himſelf, and all who have the misfortune of being connected with him, in a ſtate of beggary and wretchedneſs; while the kind of farmer of whom I am ſpeaking, poſſeſſed of capital, and guided by enlightened views of his profeſſion, enriches both himſelf, his landlord, and his country.

'The great number of candidates (ſays he) which appear at every opening, enables the landlord to propoſe very unreaſonable conditions of leaſe, without deterring offerers; and theſe are ſometimes of a nature much more oppreſſive to the tenant than beneficial to the proprietor, as is the caſe with every kind of carriage ſervice, and many of the inſtructions as to the mode of cropping uſually impoſed; and, in ſome inſtances, conditions having a fraudulent or diſhoneſt tendency are inſerted in leaſes,' &c. In arranging matters between landlord and tenant, it is not very eaſy to manage the negotiation, ſo as to attend ſufficiently to the intereſt of the former, without, at the ſame time, injuring the latter. It is a buſineſs that requires a more enlightened and liberal mind, than what falls to the lot of moſt people to whoſe charge the letting of land in general is committed. However the illiberal and ignorant may ſmile, it is moſt true that the intereſt of the landlord and tenant are identically the ſame; and that whatever injures the one, will prove equally pernicious to the other. If, by reaſon of any abſurd or unreaſonable conditions in the leaſe, a tenant be prevented from improving the land, and of courſe enriching himſelf, the landlord is ſtill a greater loſer, on account of the more permanent intereſt he has in the ground. When, therefore, they do occur in leaſes, they are to be attributed more to the ignorance of the land-ſteward, than to any inclination upon the part of the proprietor to oppreſs the tenant. This principle, of mutual advantage and diſadvantage both to landlord and tenant, is now pretty generally admitted. But there is another

ther which is not equally obvious, but of equal importance, in an economical point of view. It is at present the opinion of most people, that one man cannot make money but at the expense of his neighbour: for example, if a tenant retires, at the expiry of a nineteen years lease, with 2000l., it is most charitably inferred that he has cheated his landlord to that extent, or, at least, that the money ought to have gone into the pockets of the superior. This idea is not less ill-founded, than manifestly illiberal. It is an old adage, that all trades must live; and it is equally true, that there is a profit or advantage that appertains in a peculiar manner to every business or profession in life. There is a profit belonging to the tenant,—a fair remuneration for his trouble,—which the landlord has no more right to than the tenant has to the land itself. According as the tenant manages his affairs, this profit will be greater or less. If he retires with 10,000l., the realization of this sum is owing to his exertions upon a subject which otherwise would have produced, perhaps, little or nothing to him or to the landlord; and if he makes no money at all, the landlord is not a whit richer upon that account. The landlord is neither made richer by the laziness of his tenant, nor poorer by his industry. It is a pity that this principle were not better understood, and more generally acted upon; for, in that case, it would do more good to mankind than all the political theories engendered by revolutionary frenzy.

Upon the principle I have just been stating to your readers, I apprehend that the unreasonable conditions inserted by some landlords in leases, is not owing to the number of candidates, but to their ignorance of their real interest. I can understand very well, that a competition among bidders may raise the rent of a farm; but I cannot see how it can induce a landlord to introduce stipulations prejudicial to himself. Ignorance, that seldom understands individual interest, may suggest unreasonable conditions; but competition among offerers cannot have this effect. These absurd stipulations will not deter offerers altogether; it will merely keep good tenants aloof, and depress the rent of the farm below its natural value. If this depression was always in the *ratio* of the unreasonableness of the conditions, there need be little lamentation for the poor tenants; but the misfortune is, that while the occupier of the land is injured by his landlord, he is not equally benefited by the fall in the rent.

It is a pity but a more liberal understanding existed between landlord and tenant than what happens to be at present. No argument is necessary to prove, that nothing can be more injurious to the landlord than a state of degradation upon the part of the tenant; and experience teaches us, that the rent of land is high,

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in proportion to the ſtate of equality between theſe two orders of men. The preſent relative footing is a remnant of feudal barbariſm; and nothing but a ſenſe of its being contrary to the intereſt of the landlord, will induce him to better the ſituation of the tenant. All ſervices, of whatever kind, depreſs the moral character of the cultivator of the land, and at the ſame time are injurious to the landlord in a pecuniary point of view. Theſe, however, are gradually dying away; and very probably, in the courſe of twenty or thirty years hence, no veſtige will remain of their preſent exiſtence.

I can conceive nothing more abſurd than an attorney upon an extenſive eſtate, with a variety of ſoil, and great difference of climate, forcing one form of leaſe down the throats of three or four hundred tenants. One farm may happen to be better adapted for paſture, another for turnips and barley, and a third for wheat and potatoes; yet this worthy gentleman, with a perfect knowledge of their oppoſite qualities, would have them all bound to the ſame rotation of crops. If this be hurtful to the tenant, it muſt be equally ſo to the landlord, and to the country, in a national point of view. Independent of this ignorance upon the part of the attorney, this eternal interference is the more galling and teazing to the tenant, in proportion to his real worth. The feelings of an individual are, to a certain degree, ſuſceptible in proportion to his worth, and *vice verſa*: ſo that this mode of management has the effect either of keeping at a diſtance all thoſe who would be an acceſſion to the landlord, or of degrading thoſe who may be tenants already. For my own part, I entertain a much better opinion of the judgement of a good farmer, than of my own pretty ſelf; and am therefore inclined to leave much to him. By bad management, he may no doubt injure me, but he muſt totally ruin himſelf; and I therefore think, that until the third or fourth year of the end of the leaſe, he may be left wholly to his own diſcretion. About this time, however, his intereſt and mine, which had hitherto been one, now become ſeparate, from the circumſtance of his being about to leave the farm; and I muſt begin to look ſharply after him. Up to this period, he may be left to his own prudence; but, in order to keep the farm in a progreſſive ſtate of improvement with the change of tenant, he muſt now be reſtricted in the quantity of ground he may have under white crops. By this means, the farm will be left in as good condition as the tenant is ſuppoſed to have got it; and the landlord is entitled to not a farthing more. The payment of the rent is all that he was entitled to over and above this reſtriction in regard to tillage, towards the end of the leaſe; and this he has got. Every thing elſe in the ſhape of ſtipulations or conditions, is not a whit

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better than baronage ſervices, which injure the tenant without benefiting the landlord.

Whatever is indefinite muſt, in its effects, be to a certain degree unintelligible. If a tenant be bound to pay 100l. *per annum* for a particular farm, the obligation is moſt obvious; and, in coming under it, he muſt, *a priori*, have known its full force and import. On the other hand, if he undertakes to perform a variety of ſervices that are undefined, he cannot be ſenſible of the extent of his undertaking; and, inſtead of theſe being perhaps but trifles, they may turn out to be ruinous in the extreme. His ſtrength may be waſted in the performance of things which are not of the ſmalleſt uſe to the landlord, inſtead of being directed to the advancement of his own intereſt. The obligations, therefore, upon the part of the tenant ought to be limited ſimply to the payment of rent, which, notwithſtanding of a ſenſeleſs cry of late years, it is the right and intereſt of the landlord to raiſe as high as he can.

Though no lawyer, I do not think that the law would ſanction a clauſe of irritancy, in the event of a tenant becoming bankrupt, provided the rent is continued to be paid. He might have been a bankrupt before he entered into poſſeſſion; and ſurely the landlord has no right to complain that the poor devil has not bettered his condition in the work. If he continues in the management of the farm, and performs all the conditions of his leaſe, I do not apprehend that the landlord is entitled to demand more. If the queſtion was merely between the landlord and tenant, very probably the irritancy would take place upon the principle of a bargain being a bargain; but, in reference to third parties, I ſhould rather think that their intereſts cannot be affected by ſuch a clauſe. The caſe of the excluſion of aſſignees and ſubtenants is not ſtrictly analogous to the preſent; becauſe the clauſe, in regard to it, is as well known to all and ſundry as an infeftment upon land. The other is, no doubt, ſometimes inſerted in leaſes; but, from its privacy, ought not to affect the public, to whom it is very likely unknown.

The right of landlords to exclude aſſignees and ſubtenants is, in my humble apprehenſion, undoubted; but its policy appears to me queſtionable. For the reaſons already ſtated at great length, I am of opinion, that the argument between the contracting parties ought to be as full and ample during the leaſe upon the one, as upon the other part; or, in other words, that the tenant, while in that character, ſhould be as much the proprietor of the land as the landlord himſelf. The excluſion of aſſignees and ſubtenants, evidently encroaches upon this right of abſolute, though temporary property; and deſtroys the footing of equality upon which I think they ought to ſtand. In the infancy of agriculture, I am aware

aware that, from the very limited choice landlords had of tenants, it was neceſſary, for the ſafety of the former, to have the option to exclude. What, however, may be proper at one time, may be no longer neceſſary at another; and, now that there is no ſcarcity of farmers of knowledge and capital, this privilege may be abandoned without fear of loſs. But, although the excluſion of aſſignees and ſubtenants may be injurious to the farmer himſelf, ſtill third parties have no right to complain of a clauſe ſo univerſally inſerted in leaſes. The commonneſs of it is ſo well known, that the public cannot plead ignorance of its exiſtence; and, if they do give credit to the tenant notwithſtanding, they have themſelves alone to blame. There is certainly nothing fraudulent or of a diſhoneſt tendency in this clauſe, though perhaps impolitic upon the part of the landlord.

'Within theſe few years (ſays he) landlords, in letting their lands, have again adopted ſeveral of the old diſgraceful remnants of villanage which had been diſcarded for twenty years back, ſuch as, paying kain, and driving fuel. They likewiſe oblige the tenant to inſure the ſteading, and pay a moiety of the annual premium. Of late, too, they have reverted to the old method of taking part of their rent in kind.' Your correſpondent is here influenced too much by the feelings of the mere tenant, who looks upon landlords as doing nothing but grinding the faces of their inferiors. There does not appear to me, however, any diſgrace in a tenant either paying kain or driving fuel. They are merely a payment of rent in a particular ſort of kind, inſtead of money; and, in the occupations themſelves, there is ſurely nothing diſgraceful. I do not, however, approve of either of the two ſervices. They are, in my humble opinion, childiſh in the extreme, upon the part of the landlord, and vexatious, on account of their minuteneſs, to the tenant. It would be much better for all parties, if the landlord, upon adjuſting the terms of the leaſe, was to value the number of kain hens, or the carts of coals the tenant is to drive, and, after counting them into money, add it to the rent. By doing ſo, he would get payment of the kain, and of the carriage of the fuel, in a way equally valuable to himſelf, and far more agreeable to the tenant. For my part, I cannot ſee the ſmalleſt hardſhip in the tenant being taken bound to inſure the ſteading of houſes upon the farm, and paying a part, or even the whole of the premium. It is no doubt true that, in towns, landlords, and not tenants, inſure the houſes; but really it is a matter of moonſhine which of the two takes the trouble. If a landlord aſks 100l. a year for a particular farm, and pays 5l. *per annum* as the inſurance of the ſteading upon the premiſes, his rent is in that caſe 95l.; and if the nominal rent be 95l., and the tenant pays the premium beſides,

ſides, the caſe is exactly the ſame. It is a matter of total indifference, therefore, whether the landlord or tenant pays the inſurance. If the former, then the tenant pays a greater nominal rent to the landlord; and if the latter, then he pays a leſſer. In both, however, the landlord gets the ſame rent, and the tenant pays the ſame ſum.

Your correſpondent ſeems *enraged* at landlords making part of the rent payable in grain convertible at the county fiars; but upon what principle, I confeſs, is not apparent to my feeble underſtanding. The rent of the land is part of its produce; and ſurely there can be no hardſhip in paying to the proprietor a certain proportion of what grows out of it. The land does not produce gold or ſilver, but grain of ſome particular kind or another; and, therefore, the natural and legitimate return for the uſe of it for nineteen years, is a certain part of its produce. It may be, that a tenant, with a farm of a thin, gravelly ſoil, may be wrong in becoming bound to pay the whole of his rent in wheat. If the land be too light to carry ſo weighty a crop, it is filly in him to come under an obligation to deliver a commodity which forms no part of the produce of the land. It is not more abſurd than a tenant of hill ground becoming bound to pay the landlord a certain number of bolls of meal. It is not, therefore, againſt a grain rent that your correſpondent ſhould expreſs his diſapprobation, but againſt the kind or *ſpecies* of grain that is made payable out of the particular farm. *

'The general method (continues he) of bargaining for farms is by private offers; but ſome landlords expoſe them to public auction, reſerving a right to ſelect the tenant from a number of the higheſt bidders; and, lately, an inſtance of a landlord taking the benefit of both ways occurred.' The combatants who range themſelves upon the ſide of landlords, and thoſe, again, upon that of tenants, each puſh their arguments to an extreme. Upon a little examination, it will be found, that the truth, as is generally the caſe, lies in the golden mean. The right of the landlord to expoſe his land in any way he pleaſes, ſeems to me undoubted; but, in adopting a particular mode in letting his ground, he may not conſult his intereſt. Unqueſtionably he may let his land privately; he may expoſe his farms to public auction, and reſerve the right of ſelection here condemned. If ſuch a mode be injurious to the intereſt of the tenant, he is under no obligation to make an offer. The evil, if it be one, contains within its own boſom a ſovereign remedy. But, although I advocate the right of the landlord to adopt any mode he pleaſes of letting

Note.—If the landlord accepts of the *ipsa corpora*, our correspondent may be in the right; but not, if the grain is to be converted at the rate of the county fiars. N.

letting his land, yet I at same time admit, that he does not consult his interest in every case. I should apprehend, that the more a tenant is upon an equality with his landlord, he will give a higher rent; and therefore, *per contra*, he will offer the less the more the landlord reserves to himself. I do not approve of letting land in the way of private offers; because the landlord is not taken bound to accept of the highest offer, but may make such a selection as he pleases. In my humble apprehension, public auction is the least exceptionable, and it is the way in which land is bought and sold every day. If, however, this mode be adopted, the landlord ought to be under the necessity of receiving the highest offerer as tenant, provided he be able and willing to perform his part of the articles of roup.

Your correspondent alludes to a certain proprietor who grants leases only of eleven or fifteen years endurance. To form a judgement of the propriety of this measure, he ought to have mentioned to your readers the state of the farm, and those numerous circumstances upon which rent and the length of lease depend. If the lands be lying in a state of nature, or exhausted by overcropping, and, of course, require those improvements which suppose time for their accomplishment, a lease of the endurance alluded to is totally out of the question. Upon so short a tenure, nothing can be attempted, because nothing can be reaped before the expiry of the tack. If, on the other hand, the ground happen to be at the highest pitch of improvement, and the rotation reduced to a four-course shift, the necessity of a long lease is not quite so apparent. Upon this supposition, no further advance of capital is necessary than the price of dung and labour requisite for the raising of wheat. At the end of the lease, the tenant leaves the land in the same predicament he got it, after having drawn from its bosom all that he had thrown into it. His whole expense was limited to making it capable of producing grain, and each year's crop ought to pay him for his labour. Being merely a farm-labourer, if he be paid at the end of each year for his trouble, he is reimbursed for all that he has expended. Although, however, the tenant, in this particular instance, has no right to complain of the shortness of the lease, it does not appear to me that the landlord is so great a gainer by this policy as he conceives himself to be. The late rise in the rent of land has led some landlords to grudge a nineteen years lease, not remarking that the one was in a great measure owing to the other. Had the lease been shorter, the rise of rent would have been less. By keeping a short tether, no doubt, the landlord has it in his power to raise his rents *oftener* in the same number of years; but it does not follow necessarily that he raises it, in the long run, *higher*. In three leases of ten years each, the landlord has it in his power to raise

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the rent three different times, and from the original rent of 100l. to 600l. perhaps. In a thirty years leaſe, again, the landlord can exerciſe his prerogative only once; but, at the termination of that period, the rent may riſe to 1000l. Properly ſpeaking, and if both parties can calculate, three leaſes of ten years each ſhould put into the pocket of the landlord exactly, and no more, than what another of thirty years endurance would do. Although, however, ſtrict calculation be out of the queſtion, it will probably be found that the landlord, in both caſes, gets nearly the ſame income for a thirty years leaſe as for three of ten years only.

Leaſes for life appear to me improper; becauſe it makes the return of a *certain* outlay depend upon an *uncertain* event. A tenant may lay out, we ſhall ſuppoſe, 1000l. upon the improvement of a farm, and may die ſuddenly before reaping the reward of his induſtry. This conſideration muſt prevent farmers from laying out money upon land with that ſpirit of enterprize they would otherwiſe do, with a certainty of a number of years. Were it cuſtomary to inſure their lives, the thing, perhaps, would be as broad as it is long; but that is a buſineſs in which tenants are not at all verſant.

This article ſwells ſo very rapidly under my hands, that I muſt now ſtop, although I had much more to ſay. As you may ſee, I have expreſſed myſelf with freedom; perhaps with more than may be agreeable to your correſpondent. I hope, however, that he entertains a greater regard for truth, than attachment to his own peculiar opinions. If he does, he will eaſily pardon my animadverſions. I remain, &c.

9. *Jan.* 1808. A CONSTANT READER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Potatoes, Ploughing-Matches, &c.

SIR,

NEITHER education nor abilities enable me to write any thing fit for the preſs, or to appear in public; but if the following obſervations are of any uſe to you, I ſhall think my time well ſpent; but if not, you will commit them to the flames, that they may never appear in the dunce's den.

My farm is, a great part of it, of a very light ſoil, and in a very high country, near which there is a good and ready market for potatoes; but I grudged the time and expenſe of taking them up with ſpades, or three-pronged grapes. I tried various ways; and, laſt year, fell upon one that I think will ſhorten the time, and leſſen the expenſe. I got four pretty large baſkets that held about

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two pecks each, which I gave to eight women, two to each basket. My ploughman, with two horses yoked to a double moulded plough, drove down the drill on each side of the potato-row; by which means he kept her steadily in the centre of it, holding fully as deep as he thought there were potatoes lying, the moulds of the plough spreading about three feet wide. The women immediately followed the plough, one of them at each end of the basket, nimbly taking up every potato that was thrown up, but searching for none. The ploughman turned up the next row but one, that he might not interrupt the gatherers, or throw the earth upon the unpicked ground. In this manner I did an acre, and then the same way in the rows of earth that were thrown up by the plough between the first rows. I then yoked the horses to the harrows, and went once over the ground, which collected all the shaws, to be afterwards used in fomenting mos on Lord Meadowbank's plan, and then gave the ground a good harrowing, the women still following, and picking up all that turned up. And thus I cleaned one acre in less than eight hours work, (six women will do it, but it is very hard work to continue for days). The potatoes were thrown into carts as they were gathered, or on places of the field made smooth with a shovel. As the plough went faster than the gatherers, the ploughman, in that spare time, carted off part of the potatoes to where they were to remain till taken to market. The whole produce was, in less than ten hours, carried off the ground, and covered up. I did not measure the quantity of potatoes in the acre, not thinking of this at the time; but they were the best crop in the neighbourhood; and I sold them at twelve shillings per boll of sixteen pecks, each peck weighing thirty-six lib. English. And so superior was their quality, that I could not answer the third part of the demand, although they were a penny each peck above my neighbours. I employ women for gatherers, as I think they do it more nimbly than men, and, at that season, more readily got, and cheaper. I give one shilling a day. I immediately ploughed the land, and found it as clean of potatoes as those dug up by the spades or three-pronged grapes. The lifting potatoes from the heaps I always found troublesome, took a good deal of time, and was very hurtful to the servants' hands, after they had been working among the sand and dirt all day. To save that, and time, I have grapes with nine prongs, each prong about an inch broad and fifteen inches long, and an inch between each prong. The prong is rounded off at the end thus ⌒, to prevent it cutting the potatoes. With this instrument, if care is taken, no potatoes will be cut; and the servant will fill a cart of two bolls as soon as a cart of dung. The prongs, or neck of the grape, should be bended; and the servant,

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by pressing down the shaft of the grape before he lifts it up, cleans the potatoes, by letting the mould fall through between the prongs. I find it particularly useful in cold winters or in frost, when they cannot lye long, after the covering is taken off, without being spoiled. Perhaps some other persons may have followed the plan here pointed out; but I can say I never saw or heard of it.

Although I do not altogether disapprove of ploughing-matches, yet, in my opinion, a better plan might be adopted. I have seen four hundred idle men at a ploughing-match that knew nothing about it, which I considered a great loss to themselves, as well as the country at large. Each man's wage was worth two shillings to himself; and I have no doubt but they spent as much; which was eighty pounds lost to themselves and families, besides the disturbance to those that were at work; and I have known the men that best deserved the prize lose it by the high temper of their horses, not accustomed to the noise. But suppose every parish, where there is a farmer club, were to send judges through the whole parish, just before seed-time, to judge and report of the best ploughed farm, (for an indolent fellow may plough well for once, and make very indifferent work the rest of the season), and let the prize be adjudged to him who in general has executed the work in the most satisfactory manner. At the same time, these judges might report to the club whose farms were best improved, considering the nature of ground, and means of improvement, no matter whether the farm was great or small, or whether it belonged to the club or not. This, I think, would tend to raise ambition in the farmers, as well as their servants; and both have much need of it.

Banks of Ayr, 28. *Aug.* 1807. R. A.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Equalizing Weights and Measures.

SIR,

AN advertisement regarding weights and measures, issued from the office of the clerk of the peace of Kincardineshire, having appeared in several newspapers, (to which, for its substance, I refer your numerous readers), I would beg leave, through the medium of your widely-circulated Magazine, to call the attention of justices in other counties, and of the growers and consumers of grain, to it; and to suggest the propriety and utility of adopting similar steps, so as to equalize the weights and measures over Scotland.

The difference of weights and meaſures within the ſame county has been often complained of, both as giving the farmer an unequal market for his grain, &c. and as leading to diſputes which may, and often do, terminate in expenſive lawſuits: at the ſame time, it is matter of ſerious regret, as expoſing the poorer and ignorant claſſes to the impoſitions of the deſigning.

In Kincardineſhire, an inveſtigation having taken place, and the perſons the moſt intelligent in country matters having been called and examined upon oath, before a committee of juſtices, the weights and meaſures in different diſtricts of the county were found ſo various, and no ſtandard being ſufficiently recognized and eſtabliſhed, it was thought the wiſeſt and moſt expedient plan to adopt ſuch a ſtandard, in every caſe, as the legiſlature and the ſupreme court had uniformly acted upon. The propriety of doing the ſame in every county cannot be doubted, as it would facilitate all tranſactions with the corn-merchant, at the ſame time that it freed him from all riſk or loſs he might ſuſtain from his ignorance of the meaſures uſed in different parts of the kingdom. And ſhould any difficulty ariſe with regard to the propriety of adopting one ſtandard in preference to another, the ſentiments of all the counties in Scotland might be procured, by eſtabliſhing a correſpondence through the clerks of the peace; as it could never be the intention of the county of Kincardine to dictate to others, having only fixed thoſe that appeared to it the beſt; at the ſame time, it is entitled to the merit of ſetting an example well worthy of being followed. I am, &c.

Auguſt 13th, 1808. J. P.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Diſtillation from Sugar.

SIR,

IT was ſaid of Colbert, chief miniſter to Lewis XIV., that he ruined the trade of France by legiſlating too much for it. This is an error frequently committed by every government. The interference of the legiſlature with trade and commerce may be well meant, but ſeldom proves of much utility. On the contrary, if legiſlative regulations are not founded in wiſdom, much miſchief inevitably follows.

The queſtion lately before Parliament, reſpecting diſtillation from ſugar, has very much divided the nation in opinion; and no wonder, becauſe every one feels himſelf concerned in it. The holders of Weſt India produce expect by it, to find a better market for their ſugars; the citizens and manufacturers expect to have

have bread at a lower price; the grain diſtillers expect to make much more by the riſe upon the ſpirits which they have on hand, than if diſtilling had remained on its former footing; while the growers of grain apprehend that they muſt part with what they have on hand at ſomewhat leſs money than they expected, and had reaſon to expect, from the partial failure of the crops. Thus, has the *ſeeming* intereſt of the whole nation, that are not farmers, been ſet in oppoſition to the growers of grain, by a few Weſt India merchants, who have accumulated ſome thouſand hogſheads of ſugar in theſe laſt three or four years, and for which they cannot find a market, at leaſt a market where ſuitable prices can be obtained. In fact, theſe gentlemen have rather choſen to hold it on for ſome years paſt, than to ſell at market value. The diſtilling from ſugar was a meaſure in agitation laſt year; but, as other claſſes of the community did not join ſo heartily in ſupporting the meaſure, it was given up at that time, and reſerved for a more favourable occaſion. That the great body of *citizens* ſhould adopt ſuch a meaſure, cannot be wondered at, their intereſt being thereby *ſeemingly* promoted; and ſuch men, when immediate intereſt is held up, ſeldom think upon, in fact they are incapable of judging of, remote conſequences. You ſeldom find individual citizens capable of determining properly upon a legiſlative meaſure; collectively, they never can diveſt themſelves of that prejudice which they ſuck in from their youth, viz. that mayors, provoſts, and corporate bodies, ſhould frame laws to make the produce of the country be ſold at the loweſt poſſible rates. This diſpoſition need not excite ſurpriſe; but, that a Britiſh Parliament ſhould avowedly interfere, to keep down, or lower the price of grain below its natural level, in order that ſugar may ſell above it, is a meaſure that one would ſcarcely give credit to, if they had not proof poſitive of the fact.

If we examine the cauſes that produced this meaſure, and ſtate a few of the conſequences that muſt follow, I am afraid it will appear that the Britiſh Parliament, like Colbert, have ſometimes *legiſlated too much*.

The partial failure of laſt crop (1807), particularly in the article of oats, raiſed prices above the ordinary average; and of this riſe of price, the promoters of ſugar diſtillation immediately took the advantage. With the patriotic view of keeping grain at a moderate price, they propoſed to ſtop diſtillation from grain, and to ſubſtitute ſugar in its ſtead. That the diſtilleries ſhould *ſolely* depend upon ſugar, is a propoſition which, I believe, few people of ſound heads wiſh to ſee carried into execution, becauſe the conſequences would be fatal to the real intereſt of the country. The late regulations have, however, a *ſtrong* tendency to produce that effect. The capital employed in raiſing corn will thereby be

cramped and encroached upon; of courſe leſs corn will be raiſed, as leſs capital will be employed in its culture; for it is a well known fact, that if ſufficient capital is not employed, the operations of the agriculturiſt muſt be limited and contracted; of courſe, that the mode of culture which he is forced to adopt, bring him ſcanty returns. *He* ſuffers, in the firſt inſtance, as an individual; but the community at large are ultimately the real loſers.

But, ſay the ſupporters of this meaſure, we do not mean to hurt the farmer; we only wiſh to prevent him from getting *exorbitant profits;* and ſure no harm can follow a meaſure calculated to keep down the price of grain to its uſual level. Nothing can be more unfair than this reaſoning. Had the farmer a power of keeping up the prices, in years of great plenty, to the level of prices for crops in years of ordinary produce, there might be ſome ground for the argument; but this is not in his power. He can no more find a market for his grain in years of great plenty, at the ordinary price, than the planter can for his ſugar, when he has a redundancy on hand. In either caſe, both *muſt* part with their articles at an under price; in other words, at the market value.

Mr Barham, one of the ſupporters of the meaſure under conſideration, in a ſpeech in the Houſe of Commons, much admired for the perſpicuous manner in which he argues in its ſupport, admits that the landlord and farmer ought to receive a *remunerating* price for their reſpective commodities. This is ſpecious; and no one can object to the planter being remunerated, in the like manner, for his ſugars; but if the preſent market for ſugar does not *remunerate* the planter, I think it remains a caſe not clearly made out, even by the abilities of Mr Barham, whether or not the profits of the farmer are at preſent ſo far above what will *remunerate* him, as to warrant a meaſure calculated to take away a part of this profit, and make it fall into the hands of the ſugar planters.

Mr Barham ſays he has *farmed ſucceſsfully*. Here, I ſuppoſe, he meant to impreſs the Houſe and the country that he had a perfect knowledge of the art, and, of courſe, that he was qualified to regulate the agricultural concerns of the whole empire. I do not mean to call in queſtion this gentleman's abilities as a farmer, nor his ſucceſs in that line of buſineſs; but I muſt affirm, that his knowledge of the ſtate and condition in which the great body of the farmers in the Britiſh empire are placed, can only be conſidered as local and imperfect, probably not much further extended than the fields which he cultivated, otherwiſe he never could have repreſented them to be '*wallowing in wealth.*' Indeed, there may be ſome thouſands of farmers ſcattered over the empire in eaſe and in affluence; but ſuch bear ſmall proportion to tens of thouſands who are barely able to ſubſiſt.

A great proportion of the lands in Britain and Ireland are occupied by men who have not ſtock to cultivate them in the moſt profitable manner; hence a ſcanty return to the farmer, and a ſhort ſupply to the community. The preſent meaſure will encroach upon this ſcanty ſtock, already too ſmall, and make the annual ſupply of the neceſſaries of life more and more limited in quantity. Regulations, ſuch as thoſe commented upon, have always operated to retard a complete cultivation of the ſoil, as they ſerve to curtail exiſting capital, and check freſh capital from flowing freely into the channel of agricultural improvement.

Mr Barham thinks the landlord receives too much to *remunerate* him, when he doubles his rent upon a barley farm on granting a new leaſe. If this can be effected, and the farmer ſtill able to pay his rent, without encroaching upon his capital, I think it is a happy circumſtance for the country, and of full as much conſequence to the nation at large, as if ſugar planting were yielding 300 *per cent.* profit to the planter, as has ſometimes happened. But however great profits a planter may reap from his outlays, or however much profit a landlord may receive from his purchaſe, they have no effect upon the annual produce of grain, provided their profits are not taken from what ought to remunerate the farmer. A landlord may not receive 1 *per cent.* for his purchaſe-money; but this does not affect the produce of the ſoil. If the farmer, however, does not receive profit ſufficient to enable him to pay his rent without encroaching upon his ſtock, his return of grain will annually be diminiſhed.

But, in order to ſet this in a proper point of view, I ſhall give a general ſketch of the ſtock which land requires, and then the manner in which the returns muſt be applied. I do not preſent what follows as an exact calculation; neither do I take in any capital that may be needed for houſes, fences, or ſuch permanent improvements.

To ſtock an arable farm with labouring cattle, utenſils, manure, ſeed and labour, will require ſix pounds or guineas for every Engliſh acre. The produce of decent land may be four quarters per acre; but of this produce two and a half quarters muſt be deducted to replace ſeed, labour, and the numerous outlays upon a corn-farm. Now, the greater part of this produce being returned to the ſoil, or conſumed upon the farm, it is evident that the farmer has little intereſt as to the price of it, except the year in which he ſtocks his farm. The remaining one and a half quarter muſt pay his rent, and maintain him and his family. It is of no conſequence to the public how this ſurplus produce is divided between the landlord and tenant. It is true, indeed, if the farmer receive *leſs* than he poſſibly can ſubſiſt upon, the country would ſhare in his ſufferings; as, in that caſe, he

muſt encroach upon his ſtock, of courſe leſs corn would be produced upon his farm. But, though many of our farmers may be in ſuch depreſſed circumſtances from hard bargains, this evil, though great, is only of a partial kind. The evil ariſing, however, from the meaſures we are conſidering, is general, affecting the good farmer as well as the bad one; and, of courſe, highly pernicious to the real intereſt of agriculture.

Were our farmers *all* in the ſtate of opulence in which Mr Barham deſcribes them to be, there could no harm follow this meaſure to the empire at large. It might, indeed, afford matter for the moraliſt to diſcuſs, how far a government ought to interfere, and compel the affluent to aſſiſt thoſe that are in want. Charity inculcates, that *individuals*, who have good things in abundance, and to ſpare, ſhould part with ſome of their ſuperfluities to the needy. But we have no ſuch thing as *charities* being practiſed by different claſſes in the ſtate to each other; and I really think government ought to be a little cautious how they *order* ſuch *charities*.

It is allowed, on all hands, that there were partial failures of the crops laſt year. The farmer having leſs ſurplus produce to ſhare, required a little more money for it; of courſe, prices were a little higher than they were twelve months ago. But, from the quantity of old wheat on hand, and the failure being only partial, no apprehenſions could be entertained of a great ſcarcity, far leſs of any abſolute want in the country.

But, ſay the ſupporters of ſugar diſtillation, not one quarter of leſs grain will be raiſed. The ſeed is all in the ground, and the meaſure is only meant to be a temporary one. True; but if, by keeping down the corn markets for a few months, you oblige the farmer to retrench a little in his labouring expenſes, that he may ſpare a little more oats and meal to make up his rent, and alſo to withhold a quantity of manure which his farm would require, will any of theſe wiſe men pretend to ſay, that ſuch a farm will yield as much for ſeveral years to come, as if cultivated and manured in a more perfect ſtate? The thing is impoſſible. This is not a *ſuppoſititious* caſe, that farmers will be obliged to retrench a little in labour, &c.; it is the real caſe of many thouſands of farmers in the Britiſh empire. When theſe gentlemen perceived that the preſent cultivation could not ſupply the demand, but that we required an importation of 800,000 quarters of grain yearly, it ſurely ſhowed no great ſign of their knowledge of rural affairs, to propoſe, as the beſt plan to remedy this evil, a meaſure that *muſt* operate to the decreaſe of our annual produce, for many years, of double the quantity which was lately imported.

Mr Barham ſeems to have a confuſed idea that the farmer cannot

cannot carry on without a *remunerating* profit; and though he does not explain himſelf, he leads us to believe that *low* prices will not remunerate the farmer; and ſtates as a great evil, attendant on very low prices, that high prices immediately follow. His words are, 'Very low prices were invariably found to produce *exorbitant* high prices at ſubſequent periods.' Is not this plainly ſaying, that farmers, not being paid by very low prices, are unable to cultivate their lands in a proper manner; of courſe leſs corn is produced, which is the cauſe of the exorbitant high prices at ſubſequent periods?

But here I would wiſh that Mr Barham, and thoſe gentlemen who argue upon his principles, would attend, that low prices do not, in every inſtance, produce ſubſequent high prices. Every one who has paid the leaſt attention to theſe matters, must have obſerved that a run or courſe of favourable ſeaſons often occur; and if ſuch ſeaſons are ſucceeded even by ordinary or middling ones, exorbitant or high prices will not follow. Should the produce be increaſed one half quarter per acre annually, in three or four favourable years, prices might continue conſiderably below the average, without any ſenſible effect on the cultivation of the ſoil. In this caſe, the farmer would have two quarters per acre ſurplus to ſhare, after replacing ſeed and labour, inſtead of his uſual ſurplus of one and a half quarter; of courſe, if with one and a half quarters at 60s. he is able to pay his rent, he can afford to ſell the two quarters at 45s., without encroaching upon his ſtock. But ſhould low prices be produced by any other cauſe than plentiful crops, the caſe will be widely different. Let the cauſe proceed from a haſty peace, or ſudden breaking out of war; let it be produced by the preſent meaſure, or any other regulation of the corn trade, the effect is the ſame; and, ſhould the ſtagnation be ſuch as to force the farmer to ſell at 45s., when he would, from the ſtate of the crops, require 60s. to repay him, you oblige him to encroach 15s. per acre, which is one eighth of his capital ſtock. In this caſe, *exorbitant* high prices muſt follow; becauſe capital being wanting, cultivation muſt be limited; and ſuch caſes need no illuſtration. The facts only require to be ſtated, from whence concluſions may eaſily be drawn. No problem in Euclid can be more clearly demonſtrated. Withdraw any part of ſeed, labour, or manure, that is neceſſary for proper cultivation, and you reduce the amount of the produce of the land in a proportionate degree.

In every point of view, the reſtriction upon the use of grain appears erroneous, though propoſed as a temporary meaſure, and to rectify what is conſidered to be of a temporary nature. The diſtreſſes of our West India planters have ariſen from too great a

proportion of the sugar islands having fallen into our hands, and from employing more capital in cultivating sugar than we have occasion for. The immense profits formerly made by sugar plantations, encouraged the capital of the country to run into that channel, and tempted the country to *colonize* too much, at least for the existing state of Europe. If a part of the capital employed in cultivating sugar, more than we have occasion for, were withdrawn, and laid out in cultivating corn upon some millions of acres presently in a waste or unproductive state, we might be independent of our neighbours for the importation of grain. But, if this cannot be accomplished, why give the planters an advantage over the farmer, by any monopoly whatever? Let the rude produce of each come fairly into competition; and, if spirits can be made from sugar, paying an equal duty with that from grain, few objections would be urged against such a competition; but, if this cannot be done,—if your sugars must have a monopoly, I must raise my voice against the measure, and pronounce it dangerous to the state; because the monopoly is solely calculated to promote the advantage of a few merchants, at the expense of the many thousands employed in agriculture, and at the risk of shortening our supplies of grain at the present period, when we are uncertain of supplies from the neighbouring countries.

But the stagnation which must take place in the corn trade, will prevent many thousands of farmers from bestowing the same manure and labour upon their farms this summer as they would otherwise have done. After all, it is probable that little or no spirits will be made from sugar, at least for many months; while the grain distillers, who have a large stock in hand, will be great gainers. These gentlemen distil comparatively little in summer. In many districts, for several years past, they have stopt altogether from May till November. The great quantities of spirits which the distillers have on hand will furnish a supply for many months, and yield them much more profit than if sugar distillation had not been thought of. The great body of our manufacturers and citizens may have the satisfaction to eat their quartern loaf twopence cheaper for three months to come, though, perhaps, they will not perceive this to be the cause of a shortcoming of loaves for a series of years afterwards.

It has been the great policy of our government to keep down, by regulations, the price of grain; but I must own I am a little doubtful of the wisdom of such policy. Bread is a *manufacture* as well as broad cloth. It certainly would not be thought the best way of increasing the clothing trade, were restrictions laid upon the manufacturers, whereby they were obliged to sell at cheaper rates than the raw materials and workmanship cost them.

Now,

Now, if a manufacturer cannot go on under a compulsory system, how can the farmer proceed, when the market for one of his principal articles is in a manner shut up, and he is denied a price for his grain equal to what it cost him in seed, labour, and rent? Besides, if the same *quantum* of seed, labour, and manure, cannot be afforded for the culture of next crop, of course there must be a diminution of produce afterwards.

These are matters, Mr Conductor, of great importance to the public interest; and I earnestly wish that the supporters of the restrictive system would take them seriously into consideration. If you think this paper, which is hastily written, worth a place in your useful Magazine, it may perhaps cause the subject to be more amply and satisfactorily discussed by some abler hand. At this time, it appears to me that the interest of British and Irish farmers has been wantonly sacrificed to promote the sale of West India produce; which certainly is a measure hostile to the prosperity of the state, seeing that the culture of bread corn is thereby eminently discouraged. I am, yours, &c. J. B.

Dublin, June 7. 1808.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints in regard to certain Articles which might be substituted for Grain in the Manufacture of Drink.

Vincit amor patriæ, laudisque immensa cupido.

SIR,

AT a season when the sense of a scarcity of bread-corn is so imperious, as to have called for the interposition of the Legislature, in order to put a stop to the distillation of spirits from grain, it becomes a duty to suggest every probable remedy which may have a tendency to counteract the evil in the mean time, and which may, in its after operation, serve to lessen the danger of the recurrence of such calamities in future.

Much has already been written, and by able pens, on the means of augmenting the growth of grain, so as to meet the wants of an increasing population; therefore I shall not touch on that subject. The object of the present communication shall be confined to the recommendation of some extraneous resources which might probably be introduced for diminishing the usual consumpt of grain, satisfied that a saving in the consumpt is equivalent to an increase in the growth of that article of the first necessity.

The

The annual consumpt of grain, in the manufacture of British fermented and spirituous liquors, is immense; and, at present, I believe that there is no home-brewed or distilled liquor, made in any considerable quantity, except from grain, or in which grain is not the principal ingredient. I do not mean to say that drink is not a necessary of life, nor even to recommend a more economical consumpt of that article. I am sensible that it is not an easy matter to get the better of inclination and habit, and that it is the nature of man, at times, to indulge himself with a social glass, in order to exhilarate the spirits, even amidst the appearances of scarcity; therefore, my aim shall be, to point out some native articles which might probably be substituted for grain in the manufacture of drink. However expedient it may appear, in the mean time, and during a temporary scarcity of grain, to encourage the distillation of spirits from sugar, a colonial produce; yet, at some future period, such a measure, perhaps, might not be reckoned so politic. Britain may be a great and a powerful empire, even without sugar colonies attached to her. At any rate, it is a fundamental maxim, that a nation ought, as far as possible, to draw the means of subsistence from her native produce, which is greatly preferable to any precarious dependence upon imported commodities, whether of colonial growth or not. In this view, therefore, I shall briefly mention a few native articles, which might become most extensively useful in the manufacture of drink.

It is an universal tradition in this corner of the country, and I have heard it repeated from my infancy, that a fine, agreeable beverage was once prepared from the *bloom of the heath or heather;* and the story adds, that the art was lost on the expulsion of the Picts, to whom alone, it is said, that the secret of fermenting and ripening the liquor was confined. It is true, that I have never been able to discover any historical record or written authority in support of this popular tradition, although I will not be positive that none such exists; but my belief in the tradition is not much weakened from the want of such corroborative historical evidence, as very few of the domestic and economical habits and customs of the aboriginal inhabitants of this island are handed down to us in history; therefore, the want of such historical information is no proof that such a practice did not exist, while universal tradition affords a strong evidence that such a practice did actually exist. On the one hand, it is not very probable that such a popular tradition should have been handed down from generation to generation, without any preexisting reason or cause: nor, on the other hand, is it improbable that an art, however extensive and useful it once might have been, should have been lost amidst the revolutions

revolutions and vicissitudes incident to every sublunary thing; for, amidst the many valuable discoveries of modern times, we have still to regret the loss of many arts known to the antients, of perhaps equal utility and value.

In traversing the immense tracts of mountains, where the wide expanse offers little else to view but one uniform covering of heath, the *sombre* verdure of which is admirably suited to the romantic wildness of the scenery, the contemplative mind feels disposed to inquire, if a shrub, which covers such an extent of the earth's surface, is destined to remain for ever of little apparent use; or, if it be possible, by the exertions of human genius and industry, to convert it to answer some purposes of extensive utility; and it is only a natural conclusion to infer, that a shrub, which covers so many thousands of miles, and that so closely as almost to exclude the growth of any other vegetable, must possess qualities which may prove highly beneficial to the regions in which the quantity of it is so very exuberant.

The article itself, viz. the bloom of heath, seems naturally adapted to be the *basis* of some useful *extract*. It has a fine aromatic flavour; it has an agreeable, and somewhat sweet taste; and the bees, the best judges of vegetable sweets, and the best extractors of them, are found to prefer the bloom of heath to all other flowers; and the honey which is produced from the heath is the most generally agreeable, both in taste and flavour. It seems to follow, of course, that there is a very strong sweet in the bloom of heath.

In attempting to try experiments for extracting such sweets, it would occur, that there must be a critical period for gathering it, somewhat similar to what exists in the process of malting grain, viz. a period at which the bloom will be found the strongest, and of the highest flavour, and capable of yielding the greatest quantity of sweet; after which, it will gradually decay in quality and flavour. It may also require some attention to discover, whether the bloom must be altogether separated from the stalks and foliage, or whether part of these may be mashed along with the bloom; also, whether any previous preparation of drying the bloom may be necessary; or if it may be used most profitably in its green state, and immediately after being gathered. Many other minute particulars will casually occur to an attentive mind, in the course of making experiments. At any rate, it is probable that the liquor or infusion ought to undergo some sort of a slow, natural, vinous fermentation, and not a rapid, artificial fermentation, excited by yeast; and, if ever a fermented liquor can be obtained, there is little doubt but that such liquor may also be distilled, either separately, or with some mixture of liquor from

from grain, into an ardent spirit, which perhaps may prove of a quality and flavour superior to any ardent spirit hitherto made: at any rate, it may be more congenial to the constitution of the natives than any foreign liquor or spirit.

The next article which might be suggested as a substitute for grain in the manufacture of drink, is *whey*,—an article of which the quantity is immense, and of which many thousands of tons are annually cast out to the dunghill, exclusive of what is rather more profitably consumed in the feeding of swine; and which article of itself might, perhaps, be found equal to the annual consumpt of the natives in drink; or, at any rate, its quantity might be increased almost to any extent. That a palatable and wholesome beverage may be made from whey or milk, rests upon evidence which cannot be disputed.

Indeed there is the greatest probability, that a drink, prepared from milk or whey, was one of the most early beverages, and in common use among mankind all over the world, long before discovery was made of the possibility of extracting any sort of drink from grain; and a species of drink in universal use in the early ages of society, and which is still used in many places of the earth, might yet be found highly useful in this country at this day; and an everlasting prejudice ought not to consign the present hint to neglect or oblivion, in the face of the very many respectable authorities which attest the extent and utility of the practice, and of which a few shall be noticed here.

If I mistake not, I think that I have read that a drink, prepared from milk or whey, was antiently in universal use among all the tribes and nations which inhabited the northern parts of Asia and Europe, and known to the Greeks and Romans under the general name of Scythia; but, at present, I have not an opportunity of recurring to the authorities, although such a reference appears rather needless, from the very general use of such a beverage in these countries at this day. The milk of mares, either in its original, or in a prepared state, is generally used all over Tartary as the common drink; and the Monguls and Kolmucks prepare a spirit from it of considerable strength; and Dr Willich, in his lectures on Diet and Regimen, in treating of the articles '*Food and Drink*,' page 339, says, that the Persians and other inhabitants of the East, prepare a kind of wine from milk, which possesses all the qualities of an intoxicating liquor; at least, adds the Doctor, such is the report of respectable travellers. Indeed there cannot be a doubt but there is a strong *animal spirit* in milk, which, when duly prepared, may be fully as agreeable to the taste and constitution as any *vegetable spirit*; and if once such a wholesome beverage should be brought to a

state

state of perfection, perhaps our connoisseurs in drinking might hold it in such estimation, as to prefer it to most other kinds of drink; and thus, the present enormous consumption of grain in the manufacture of drink might be greatly diminished.

Though the authorities in regard to the extent and utility of the practice of preparing drink from milk or whey cannot be questioned, yet I should have hesitated to have recommended the adoption of such an experiment into this country, had I not been convinced that such a species of drink had also been used in this country from the earliest ages, and that it was once the most fashionable and genteel liquor; being what was generally used at feasts, when the business was to be merry, and to get intoxicated.

The learned Buchanan, our countryman, in his History of Scotland, (L. 1. c. 33.) in speaking of the manners and customs of the inhabitants of the Hebrides, the indigenous Scots, says—'*Serum lactis aliquot annis servatum in conviviis etiam avidè bibunt. Id potionis genus Blandium appellant*;' *i. e.* at their feasts they drink *whey* preserved for some years, which they relish very much, and which they call *Blandium*. The annotator adds, in a note, that *Blandium* is an Erse word, signifying a sort of drink made of *whey* and herbs fermented together, and which is of an intoxicating quality. Of this latter circumstance there can be little doubt; for, if the drink had not possessed exhilarating qualities, it is not very probable that it should have been used at the feasts, and have been swallowed with such *avidity*. Our author is silent as to the mode of preparing or ripening the liquor; but, if I mistake not, I have read elsewhere, that it was burjed for some years beneath the earth in tight wooden vessels; and that, under such a process, it acquired a strong vinous quality, and a taste and flavour highly agreeable. The practice however is so recent, that there is a high probability the mode of preparing such a liquor may yet be known in the Hebrides, or in some of the Highland districts of the Mainland; for, having been an article of common use about 200 years ago, it is natural to suppose that the practice did not cease all at once, but that it has been continued partially down to a very late date; and it might be worth while to make some inquiry among the more aged classes of the natives.

In remote ages, and before an extended commerce conveyed so freely the produce of one country into another, the Highlands and islands of Scotland were obliged to depend upon their own crops and productions for the means of their subsistence; and in these ages, and before the introduction of adventitious commodities and foreign luxuries, the population was much more abundant

dant than it is at present; which is a proof of the superior industry of the inhabitants in former times. In these ages, there cannot be a doubt, but that a liquor, of which the basis was whey, was the favourite beverage of the natives of all ranks. But the facility, when commerce opened, of procuring wines and foreign spirits, has gradually buried in oblivion all traces of antient economy and industry, and has introduced among the better sort a taste for foreign luxuries; which, with the indolence of the common people, when they had not the example of their superiors to excite their imitation, has effected a complete change in the use of drink, much to the disadvantage of the country. After the introduction of wine and foreign spirits, it has no doubt been reckoned vulgar and unfashionable among the better sort to use the cheap and humble liquor prepared from whey; and when it has been banished from the tables of the great, it was easy to foresee that it would not long remain an object of favour with the cottager. It required a tedious process to prepare the liquor from whey; but a liquor could be obtained from grain which was fit for use in a few days, and which, though a much more expensive drink, was better suited to the indolence of the cottager; while, at the same time, it gratified his vanity, by giving him an opportunity of imitating the conduct of his superiors, by banishing also from his humble board that cheap and vulgar preparation of whey, which his chieftain had already rejected from his sumptuous table.

The only other article which I shall mention at present, is one yet in use, which is a beverage prepared from the refuse or dregs of honey, but which is also falling very much into disuse, partly from the undue avarice, and partly from the culpable carelessness of the bee-owners. I have had occasion to see twenty-five or thirty gallons of a very fine and palatable drink made from the refuse of three or four hives, after the pure honey had been separated from the combs, wax, &c. by the simple process of drainage, *i. e.* the allowing the honey to distil or drop leisurely through a sieve or search, into a vessel or receiver placed below, and which sieve retains the combs, wax, and grosser parts of the material. Such refuse was afterwards boiled up in water, by which the mass was decomposed, the water absorbing any remains of the honey or sweet, and uniting with it, while the wax floated on the surface of the liquor; and the grosser parts, on the liquor's cooling, subsided to the bottom as a residuum. To this liquor, when purified by straining, a little of the extract or wort of malt was added sometimes, to make it ferment and ripen the sooner; but when the object was to obtain the liquor in perfection, it was made of a due strength, and received no such mixture;

ture; it was allowed full time to ferment and ripen, in which case it turned out little inferior to some wines; and when a very strong liquor was wanted, the process of drainage was not pushed too far, whereby also a much finer honey was obtained. But now the usual practice seems to be, to force and squeeze the combs by heat and pressure, till a great part of the wax, and even of the very dregs, is forced through along with the honey, whereby its quality is much deteriorated, and the impure and heterogeneous mass never candies or consolidates, but remains a thick dirty liquid. The bee-owner, instead of deriving a profit from this nefarious practice, is a loser. Every pound of wax, which he forces through among the honey, is worth double or treble the price of a pound of honey, and his honey fetches an inferior price at market; while the residuum of the honey, which remains among the combs and dregs, is not worth half the value in any other shape than as the basis of a fermented liquor. Now, under an improved management, the stocks of bees and their produce might be increased, perhaps from ten to twenty fold, without diminishing any other stock or produce, which would be a most important accession to our stock of food and drink at the same time. Bees require a good deal of care and attention, but no sort of stock will pay better for the trouble.

They sip their *nectar*, they gather their *ambrosia* from the flowers they feed on, without any sensible diminution or waste of quantity or quality; of course their sustenance costs nothing, while the profits of a thriving stock are very considerable. Professional attendants, called henwives, are employed to care for poultry; and why not employ professional attendants to look after bees? An old man or woman, fit for no sort of hard labour, could attend to an extensive stock of bees; and experience would teach such attendants, who had nothing else to look after, to contrive many improvements for the comfort of the bees under their charge; and they could follow the most approved general rules for the better management of the stock. Besides, a farmer employing such a professional attendant, could select and enclose the most eligible situation on his farm for an *apiary* or bee-garden, where nothing could annoy these industrious insects, or interfere with their operations; which bee-garden could be stocked with all sorts of flowers and shrubs which are known to be most grateful to the bees, and which the attendants could cultivate and keep clean; and bees would surely thrive much better in such a comfortable situation, and so well cared for, than they could be supposed to do in the exposed situations close to the farm-steadings, in which they are generally kept at present;

and

and which preposterous practice has been adopted and continued for the sole convenience of the domestics watching them in the swarming season.

Such appear to be the native articles, which perhaps might be rendered most extensively useful in increasing the liquid part of our nutriment, without interfering with grain, the prime staple of our bread; and a saving in the consumpt of grain, in the manufacture of drink, would augment, in the same degree, the quantity of bread-corn.

That the first of these articles, *viz.* the bloom of heath, has been usefully applied in the manufacture of drink, we learn from a very universal and highly probable tradition. In regard to whey, we have indisputable historical evidence, not only of its extensive use, but also of its possessing all the qualities which we expect to find in drink; and, in regard to the great utility of honey, as the basis of a drink, we have daily experience to satisfy us of the fact. There are, without doubt, many other native articles which might be very advantageously applied as ingredients in the manufacture of drink; and many more may yet be discovered, when science shall direct her inquiries towards such an humble subject, which at present is left, in a great measure, to the management of illiterate cooks. But, on this subject, it does not appear necessary to enlarge at present; though, with much submission, I may be permitted to draw one general reflection, which seems to obtrude itself on my fancy, and which I mention without any intention of running foul of the philosophy of the day.

Never was there a greater avidity for discovery in science; never was there a greater avidity for novelty; and never did philosophy make such surprising efforts to develop the *arcana* of nature, as she does at present. Now, while our able chemists are busily employed in decomposing earths, stones, metals, &c. and in composing drugs, dye-stuffs, varnishes and cements;—while they are analyzing the very elements of matter, and pursuing nature through her most hidden recesses;—while they have added much to the stock of human knowledge, and, at the same time, greatly enriched our language by the discovery of the gases, azots, oxygens, hydrogens, and all their various beautiful compounds and ramifications: perhaps some of our learned men may, at some future period, descend from the sublimity of science, and may perhaps condescend to direct their experiments towards the humbler, though not the less useful branches of knowledge, viz. in the discovery of the means of increasing the quantities of bread and drink, the staple articles of human subsistence. At some future period, perhaps, the *bias* of science may alter its direction; and it may become the opinion of the learned, that true philosophy consists more

more in attempting to increaſe the comforts and happineſs of mankind, than in decyphering the legend on an urn, determining the age of a coin or medal, or even in the purſuit of the more daring experiments of *galvanic* reſuſcitation.

Might I conclude by venturing to expreſs a wiſh, that the Highland Society would honour theſe rude hints with their notice, and recommend them to the conſideration of a wiſe and enlightened nation? But, whether theſe hints ſhall excite any ſerious attention, or whether they ſhall be viewed as idle dreams, and be conſigned to oblivion, yet, to have ſuggeſted what he conſiders as probable, and highly important improvements, ſhall afford ſome conſolation to A CLOWN.

Aberdeenſhire, 15th July, 1808.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *Borthwick, 6th October*, 1808.

I SEND you a copy of the Regulations of the Middleton Farming Society, Mid-Lothian, which, if reckoned worthy of a place in the Farmer's Magazine, may be inſerted in firſt Number. At any rate, I will be much obliged to you for your remarks upon them. At the inſtitution of the Society, it was the intention of the original members to have the Society compoſed of farmers and landed proprietors reſiding in the immediate neighbourhood. This has, as yet, been ſtrictly adhered to. The Society intend having an annual ſhow of cattle and ſheep; they will likewiſe have a ploughing match in the ſeaſon.

I am, with much reſpect, yours ſincerely,

ALEX. INNES.

Regulations of the Middleton Farming Society, inſtituted 19th February 1808.

I. THE Society ſhall meet in the houſe of Mr Wilſon, in Middleton, on the firſt Tueſday of every month (the months of April, September, and October, excepted), with power to the members, or majority preſent, to alter the day of meeting in winter, ſo as the members may have the benefit of moonlight.

II. There ſhall be a preſes, a ſecretary, and a treaſurer. Each member ſhall ſit as preſes, in the order he ſtands in the liſt. The member preſent who ſtands next in the liſt to the preſes, ſhall ſit as croupier. The croupier, if preſent at next meeting, ſhall ſit as preſes, to the excluſion of all the members who ſtand before him in the liſt, although they have not before ſat as preſes.

III. The ſecretary and treaſurer ſhall be elected for one year

from the time of their election; and a new election shall be made to these offices annually, at the meeting in May.

IV. The object of the Society being to promote the interests of agriculture, a topic connected with Rural Economy shall be proposed at each meeting, as the subject of discussion at the next meeting; when it is expected that members will come prepared, either with a written essay, or to speak at large on the subject.

V. No persons to be admitted members of this Society but farmers and landed proprietors. No honorary members to be admitted. The number of members not to exceed thirty.

VI. No new members to be admitted unless there are ten members present. Before any person can be admitted as a member of this Society, he must be proposed by one of the members, in a letter to the preses for the day. The preses shall then propose him to the meeting, when he shall undergo a ballot, and may be admitted, on having a majority of members present in his favour. The preses to declare whether he is admitted or not. Members to have it in their power to defer balloting for a new member till the next meeting after that on which he was proposed. If a new member does not come forward at the next meeting after that on which he was admitted, the member who proposed him shall pay a fine of five shillings. No balloting for new members shall take place, till the business of the day be over.

VII. In summer, the hour of dinner shall be 3 o'clock, and the bill shall be called at 7. In winter, the hour of dinner shall be 2 o'clock, and the bill shall be called at 6. Immediately after that, the preses shall adjourn the meeting, and the members shall dismiss. Whisky punch, or toddy, shall be the usual drink of the Society. No wine shall be allowed on any account.

VIII. The Society shall enter on the despatch of business immediately after dinner. Each member shall have an opportunity of speaking in his turn, and shall in all cases address himself to the preses. The preses shall give the necessary orders to the secretary, treasurer, and others, for carrying on the business of the Society; and shall collect the votes of the members on any subject where a difference of opinion may arise; he himself, in case of an equality, having the casting vote. He shall then pronounce the determination of the Society. The preses shall watch particularly over the peace and good order of the Society.

IX. Each member shall pay five shillings into the hands of the treasurer at his admittance, to be applied as the Society may afterwards determine. At the annual meeting in May, every member shall pay into the treasurer thirteen shillings and sixpence; from

from which fund the treasurer shall pay the dinner bill for each member, whether present or absent, for nine meetings. Members admitted betwixt the annual meetings, shall only pay a sum sufficient to defray the expense of their dinners from the time of entry till the next annual meeting. Members failing to pay up the annual subscription at the first meeting after the annual meeting, shall be considered as no longer members, and their names shall be taken out of the list.

X. As the greatest decency and good order shall be kept up, no person will be allowed to curse or swear, or appear drunk in the Society. Every member transgressing the rules of the Society, in these, or other respects, shall be liable to a fine of one shilling for the first offence; two shillings for the second; and for every succeeding offence the fine shall be augmented one shilling: the fines to be levied by the authority of the preses. A preses transgressing the rules of the Society, may be called to order by any member, and the vote may be put whether or not he is liable to a fine. Members reckoning themselves aggrieved by the authority of the preses, may appeal to the meeting; but, in order to prevent unnecessary trouble, such members shall be liable to a fine of one shilling, if their appeal is found to be groundless.

XI. The presence of five members shall be necessary to constitute either a monthly or annual meeting.

XII. Any member may bring one stranger along with him; but he shall pay his dinner bill, and become liable for his good behaviour.

XIII. No meeting of the Society shall dispense with a standing rule in any particular instance; and no standing rule shall be altered, until a motion to that effect be made by a member of the Society, and seconded by another; which motion shall lye upon the table till the first meeting after that at which it was proposed, when it may be determined by a majority.

XIV. Whoever does not signify to the secretary, by word or writing, that he is not to continue a member of the Society, before the annual meeting in May, shall be held as continuing for the ensuing year, and shall be required to pay accordingly.

XV. The secretary shall keep a book in which he shall enter the minutes of the proceedings of the society, and whatever else they may deem worthy of insertion. The treasurer shall likewise keep a book, in which he shall enter a regular account of the entry money, fines, &c. paid in to him. Both these books shall lye on the table at every meeting.

XVI. The rules of the Society shall be printed, and a copy given to each member at his admittance.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Obſervations upon the Draught of a Leaſe, inſerted No. XXXIV p. 182.

SIR,

HAVING peruſed a copy of the leaſe, inſerted in No. XXXIV. of your Magazine, when it was circulated in Dumfries-ſhire two or three years ago, I formed an opinion upon it very different from that expreſſed by your Laurieſton correſpondent. * I conſider it as ill calculated for the encouragement of an induſtrious tenant, or the improvement of the neglected eſtate for which it was intended. A few, and but a few of the clauſes, carry out the report that Dr Coventry aſſiſted in framing, when that eſtate was ſurveyed; and the excellency of theſe is more than overclouded, by the overſtrained conditions which too often occur in the deed. I ſuſpect J. B——k has never been an outgoing tenant; and that, like Mr Marſhall, † who told our fathers nearly thirty years ago that 'his farm had been let to a neighbour, whoſe birth, parentage and education, life, character and behaviour, were jointly and ſeverally not worth recording,' he aſſumes a preeminence in favour of the incoming tenant, which experience does not teach, nor practice juſtify. In a compariſon between the outgoing and incoming tenants, it will generally be found, that the knowledge and experience of the former entitle them to the preference; the latter, frequently new adventurers, probably a mechanic, a cattle-dealer, a horſe-dealer, a fiſher, a ſmuggler, or a whiſky retailer, out-bid the judicious farmer; (and I know that ſuch adventurers ‡ have inſured a preference, by adding a P. S., in the way of an amendment, 'If I am not the higheſt offerer, I will give 10l. more than the higheſt'); and when they have done ſo, unacquainted with the rights of outgoing and incoming tenants, too often from the jarring opinions of others as ill adviſed as themſelves, they reſort to legal meaſures; and the firſt notice of complaint, is the ſervice of a proceſs, probably an interdict againſt the cloſing of the few remaining agricultural operations attached to the right of the outgoing tenant. But Mr B——k may ſay, it was not in the compariſon of the knowledge or experience in either the outgoing or incoming tenant, but in the

* Page 344 of the Thirty-fifth Number of the Magazine.

† Marshall's Experiments and Observations concerning Agriculture and the Weather, 1779.

‡ With such adventurers, the greatest part of an estate in the south border of Dumfries-shire, was lately tenanted.—How unpromising is the management of *two* to *one* of such farms!

the diſpoſition and principle, that he arraigned the former. In theſe, however, the new is ſeldom the old tenant's better. With your Eaſt Lothian Ruſticus, I agree that 'it would be an invidious taſk to contraſt the character of the modern farmer with his predeceſſor.' §

Indeed, I ſuſpect Mr B——k has never been an incoming tenant; or, if he had, he would have taken the firſt part of the clauſe ſelected by him under his conſideration. The obligation upon the tenant to furniſh the *carriages* of the whole materials for the buildings and repairs on the premiſes, is too much *akin* to the proſcribed, or rather aboliſhed, *arrage* and *carrage*; ſervices ſcarcely now remembered in this county. The bad conſequences attending ſuch a condition cannot eſcape an attentive obſerver. During the firſt and ſecond years of the tenant's entry, buildings and repairs will be required. During theſe years, the tenant will find much extra-work upon the farm; for his farm-horſes and ſervants (probably a ſcarcity of proviſions too), furniſhing the carriages conditioned in this clauſe, muſt occaſion the neglect of the farm; and ſuch a neglect, at the commencement of the leaſe, is not only a loſs almoſt irreparable, but often attended with that ſlovenly management, which the tenant does not overcome during the whole leaſe. I ſuggeſt, as a ſubſtitute for this part of the clauſe, an enactment, that the tenant ſhould not work for hire, with either his farm-horſes or ſervants, during the firſt three years of his leaſe. It does not occur to me, that there is much room for quibbling between *proper* and *good* condition. A *proper* general, I am told, is always a good leader to an army. The verdict which ſuſtains any article as *proper*, certainly includes a finding that it is ſufficiently good. Had the framer of the leaſe, or the gentleman who echoes its praiſe, endeavoured to condenſe the *five* ſeparate clauſes as to houſes, &c. into one *proper* clauſe, it might have been a *good* one; and, as an amendment to the whole, a *proper* ſtipulation that the houſes, &c. which the tenant was to leave in good condition, ſhould only be thoſe which had been *good* at his entry, or made ſo by the proprietor during the leaſe, would have been a *good* improvement; but many more important improvements will fall to be introduced, before the leaſe under conſideration can be ſanctioned by the vote of a majority, as a fair contract between landlord and tenant.

In noticing ſome of the clauſes in their order, I ſhould mention, that the indulgence to the tenant in this leaſe to appoint or name his heir, is an improvement, and one ſtep advanced to conſtitute that right which alone can give certainty in a proper

§ Page 175 of No. XXXIV. of the Magazine.

management of, and return for, his property to the proprietor, and ſtability to the credit of the tenant. Had it been ſuggeſted to the noble proprietor of the eſtate for which the leaſe was prepared, that, to ſecure the continuation of a good tenant, the punctual payment of a fair rent, and to avoid, what muſt be diſtreſſing to his feelings, the loading of the pariſh church doors, in the neighbourhood of his eſtate, every *Sunday*, with the advertiſements of the ſales of the chattles, &c. of his tenants, by virtue of a warrant of the judge-ordinary;—I ſay, had it been ſuggeſted to him to ſubſtitute, for the clauſe ſecluding aſſignees, &c. a proper clauſe authoriſing the tenant to diſpoſe of his leaſe, under ſuitable conditions, his tenants would have been more happy, and his Lordſhip a great gainer. *

When a tenant offers for a farm, it may not be the annual value of each acre taken separately, but the quantity and quality of the whole taken together, that induces him to take the farm. Suppose a tenant finds a farm of *two* hundred acres best suited to his stock, and the strength of his family; he will give more than he would do, in proportion, for a farm of the same quality, of one hundred and fifty acres. If such a reservation as that authorising the proprietor to allocate a part of one farm to another, in the alteration of marches, is admissible, the annual value of the ground is not a fair allowance for the one, nor augmentation of the rent to the other tenant. Taking fifty acres from a farm of two hundred acres, may do more real injury to the tenant than three times its annual value; and, in like manner, it may do more good than its annual value to the farm to which it is added; and it may even do less good to it;—it may be an addition for which the tenant is not provided, either in stock, or strength of family. In place of the annual value of the ground, the injury done to the tenant whose farm has been diminished, and the good done to the other, should regulate the alterations in their rents with the proprietor. The payment of 6 *per cent.* upon improvements, is a barrier in the way of agriculture. The proprietor is not courted to lay out the capital; as, rather than pay an extravagant *per centage*, the tenant will shift over another and another year, and so on to the end of his lease, in the old way. The same *per centage*

* Where a landlord is obliged to have recourse to judicial sales for recovering his rents, and to processes without end upon other conditions of the lease, the consequences are, the tenant, in the end, is ruined with the accumulation of costs; the farm, from the repeated sales, robbed as bare as its poor *pooked* tenant. At last, an insufficiency for the rent, and lawyers' bills, occasion his surrender. Here, there is no gainer but one; and that one is neither the tenant nor his successor; neither is it the proprietor;—it is his law agent.

centage indiscriminately upon every branch of improvement, establishes it rather as annualrent upon money, than as profit resulting from meliorations made on land; consequently, the exaction cannot be a hair-breadth free of the statutes against usury. If the proprietor is no wiser, he is more moderate than Dr Dewar, who calculates upon 25 *per cent.* Facts, however, are better than a cloud of such calculators. Subdivision dikes and fences, from their general construction, do not sufficiently answer all the purposes intended at first. Generally a *clap-dike*, with a hedge and ditch, are not a sufficient fence for the first *five* years, even when properly managed. The tenant taken bound to keep them in good order during that period, reaps little or no advantage from them; and, whilst he is thus raising the property for his landlord (probably to be enjoyed by another tenant), at an expense not less than 10 *per cent.*, what right has the landlord to expect a *per centage* so extravagant? Like property itself, he should wait till the improvements become productive, and then ask a consideration proportionate to their annual value. Thirty years purchase may be held as the medium value of land. Improvements upon land will keep pace with it; and, though they may not be worth more than 3¾ *per cent.* at first, they will double their value in due time. There are other species of improvements, such as drainage, which are not proposed in the clause now under consideration. Drainage, of all others, yields the most immediate return. It requires no labour in maintaining ditches,* but what it makes an immediate return for; therefore, of all others, it could afford the highest *per centage.*

The reservation for planting contains a more equitable rule than the clause as to the alteration of marches. Here it may be stated, that as plantations are improvements, their benefit to the tenant might compensate the annual value of the ground taken up by them. In time they certainly would; and if I was a tenant on the estate, as the overseers seem to neglect this reservation, I would request his Lordship to allow me to pick the transplantable trees from his overgrown nurseries, to plant a few acres and preserve them properly, to support me in a claim for a preference as an old tenant at the next renewal of the leases. But I shall suggest something further upon this head, when I come to speak of the clause binding the tenant to preserve the trees, &c.

But it could not escape the framer of the lease, that as preferring the highest offerer was to make him pay roundly for his experience, so the clause intended for the proprietor to reap the whole

* In the scouring of ditches, the earth acquired therefrom is generally equal in value to the expense of the labour.

benefit, even after the tenant may not only have exhauſted his own ſtock, but as much more as he could procure upon credit, ſeems to be an infringement of the eighth commandment. Buckle's riding at Newmarket ſeemed not ſufficient. Over anxious directions to lead, appear to have carried him to the inſide of the poſt; and he muſt be declared diſtanced. Neither the ſtatute nor the public law are ſufficient to prevent it. The ingenuity of the gentleman employed having made a clauſe or obligation greater than the *ſtatute* or *public* law, his name is well entitled to be honourably mentioned. One ſtep further might have made his enactment effectual; a royal grant to inveſt him with executive power to enforce obedience to that which, without a bluſh, is confeſſadly unauthoriſed by the preſent law of this kingdom. I ſhall not attempt to prejudge the queſtion. I underſtand it is already fourfold before the Court. I have no intereſt at ſtake to induce me to be over ſanguine in anticipating what effect will be given to this new law. So far as it has already been tried, its defect is admitted. Though the proprietor reſerved full liberty to aſſume poſſeſſion; yet he has found that impracticable without the interference of a law-court. And can the proprietor expect that the Court of Seſſion will exerciſe that *nobile officium*, often ſtretched out to ſoften the rigour of harſh law, but never exerciſed to compel obedience to that which neither ſtatute nor common law authoriſes? The reſerved liberty to aſſume poſſeſſion ſeems not to have been conſidered ſufficient at the time; for, in the ſame clauſe, and before the ſtart of the obligations upon the tenant, he is made to renounce the poſſeſſion, and to conſent to ſummary diligence for removing him. This likewiſe ſeems not to have anſwered the end intended. Indeed, there appears no ſmall degree of inconſiſtency in renouncing the poſſeſſion with the ſame breath that accepts it, or, rather, before it is acquired. Does not the ſtatute law ſay, that the renunciation of property requires a ſeparate deed from that which granted it? And will not the ſolicitor of the ſtamp duties ſay, His Majeſty's revenue muſt not be hurt by the by-law of any little ſubject?

It is not poſſible, upon any principle, to juſtify ſuch a clauſe as that under review, particularly where the proprietor uſes no diſcretion in preferring the tenant, except by the extent of the offer. Following out the rule, why not allow the tenant the ſame privilege to tranſfer his leaſe to the higheſt bidder? No; it would be going too far to tranſfer the bad practice of the maſter in letting his lands, to the tenant in ſubſetting them. I have no pretenſions to compete with the framers of that leaſe; but it occurs to me, that a clauſe to the following effect would be better calculated for a fair contract between landlord and tenant.

But

'But in the event of the tenant, or those succeeding him in this lease, becoming bankrupt, and not effecting a settlement with his or their creditors, or a discharge in terms of the act of Parliament of the 33d year of his present Majesty, or any subsequent act of the same nature, or executing a voluntary trust-conveyance for behoof of his creditors, on account of inability to pay his debts, or becoming unable to implement and perform his part of the conditions of this lease, then the lease shall be exposed to public sale before the judge-ordinary, and the highest offerer preferred; it being a condition, that the sale shall be advertised in such newspapers, for at least four weeks, as the judge-ordinary shall appoint; and that every intending offerer shall lodge a note with the clerk of the sale, signifying his intention to offer, ten days at least before the roup; and, if required, shall produce evidence, or other proper recommendation, to satisfy the judge-ordinary of the propriety of admitting him as a tenant, should he be the highest offerer; and the proceeds of the sale to be applied, in the first place, to discharge every claim competent to the landlord upon the lease, and the expenses in conducting the sale; in the second place, to the payment of the tenant's debts; and, in the third place, the surplus, if any, paid over to the tenant, his heirs, executors or assignees.'

When I sat down to write this letter, I had no intention of committing my ideas upon the lease in question to paper, further than what occurred in reading the letter from Laurieston; and though I have gone further, and I hear a monitor telling me that I have said too much in my first essay, yet should you approve of, or consider all, or *any part* of these observes, worth a place in your Magazine, I may afterwards trouble you with my opinion upon the remaining conditions of the lease.

I am, Sir, your most obedient servant,

Dumfries, 17th October, 1808. X. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Improvements on the Duke of Buccleuch's Estates, viz. Straightening and Widening of Rivulets—Sheep Bridges—Exclusion of Black Cattle from the Sheep Walks—Stells—Irrigation.

Sir,

By inserting, in your Magazine of July last, my account of Surface-draining on Sheep Farms, and Mole-catching, as practised on the Duke of Buccleuch's estates in the south of Scotland, you have laid me under the obligation of fulfilling my promise with respect

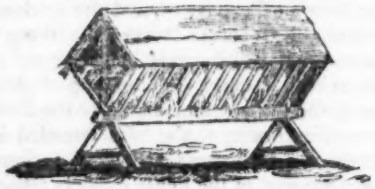
respect to some other improvements equally useful. Let me observe, then, in the first place, those that were suggested by draining and mole-catching.

As one improvement commonly leads to another, so the draining of sheep-walks, in wet soils, naturally led to straightening and widening the course of rivulets. This was found necessary for two reasons; 1st, to contain the additional quantity of water, so as to prevent the grass on the sides of the rivulets from being sanded by the floods, and thereby rendered unfit for hay; and, 2dly, to remove what was generally considered one of the causes of rot, namely, the rich soft grass which such frequent top-dressings of mud commonly produce, and which, being greedily sought after by sheep in the end of the season, commonly proves hurtful. But although the straightening and widening of drains was seen to produce these good effects, it was found to be attended with some serious inconveniences; for their width, in many places, obstructed the sheep-walks, so that the weak durst not cross them, and the strong, when attempting it, were sometimes drowned, especially after rains, or the break of a storm. Nor was this all; for ewes heavy with lamb were often injured by them; and not unfrequently have the lambs themselves been drowned, when attempting to cross them after their mothers. A sense of interest, therefore, as well as humanity, led the farmers to provide a remedy; and that which naturally suggested itself was the construction of bridges, in every place throughout the farm where they were judged necessary. Nor are these expensive; for two rude planks laid across the stream, and covered first with brushwood and then with turf, are all that are requisite; or, if the rivulet be large, it is found necessary to secure the permanency of the bridge by land-breasts of wood or stone, or both intermixed. These give the sheep easy access to all parts of the farm; and, what is certainly of the greatest consequence to the flock, the shepherd is never barred from attending them, whenever his presence is thought necessary. On a single farm in the parish where I reside, there are not fewer than 35 bridges of the one or other of these descriptions. Another improvement suggested by draining and mole-catching was, the exclusion of black cattle from the sheep-walks. With regard to the respective kinds of sheep which a farmer should keep, or the particular mode in which they ought to be managed, the Duke of Buccleuch never interferes; for, like every other enlightened proprietor, he trusts these to the good sense of his tenantry, being fully persuaded that their own interest will naturally lead them to keep such stocks, and adopt such management as will in the end be the most productive. But he has seen the bad effects of mixing black cattle with

with ſheep on wet lands, and therefore reſolved, that, if kept by the farmer, they ſhall be kept diſtinct. Thus, the ſurface drains are preſerved from deſtruction; the grounds ceaſe to be poached; and the rich ſweet graſs which that poaching occaſioned, eſpecially at the end of the ſeaſon, and which was ſo hurtful to ſheep on wet ſoils, is thereby prevented. Every farmer whoſe lands are ſoft and boggy alſo knows, that clean paſtures are abſolutely neceſſary to the health of ſheep, and that grounds fouled with the feet of black cattle, or ſoiled with their dung, are exceedingly noxious.—Such were the improvements which ſurface-draining on ſheep farms, and the catching of moles, naturally ſuggested. But before leaving the ſheep farms, there is one improvement, which, from its very great utility, ought not to be overlooked; I mean, the building of *ſtells* in different parts of the farm, for the accommodation of the ſheep. Theſe are of different forms, according to the uſes intended by them, or the different ſentiments of farmers. Belts and clumps of planting have long been adopted in the lower diſtricts; but the ſtells which I have chiefly in view, are thoſe erected in high ſituations; which may be divided into what are provincially called black-weather ſtells, and ſtells adapted to the winter ſnows. The black-weather ſtells are commonly in the form of ſemicircles, with their backs to the weather, ſo that the ſheep can find ſhelter behind them. Hence they are often called C ſtells; and not a few are made like the three legs of an Iſle of Man halfpenny; ſo that, whatever way they are ſet down, or the wind ſhall blow, the ſheep can lye with comfort behind them. Theſe, from their particular figure, are often called Y ſtells. The ſtells adapted to the winter ſnows are of different kinds. The old form of the ſquare is now diſcarded, as liable to fill with ſnow; and rounds or circles of various ſizes are in general uſe. Experience hath taught that they are free from the faults aſcribed to the ſquare; and being built of dry ſtones, from $5\frac{1}{2}$ to 7 feet high; from 30 inches, or 3 feet, in the bottom, to 16 or 20 inches at the top; and from 15 to 25 yards diameter, according to the ſize of the flock, they are both durable and uſeful. Several of the farms in my neighbourhood have from 8 to 12 of theſe rounds. As taſtes differ, and the objects of different farmers are various, ſo ſome to the circle join an arm like the letter I, thus . but moſt prefer the letter Y, thus . The intention of which additions is, both to ſerve as a wear to the ſheep when they are wiſhed to enter the round; to combine the advantages of the ſummer and winter ſtells, by affording them ſhelter, at times, from the wind and rain; and to prevent the hay from being carried off by the wind, when they

are

are obliged to fodder in time of ſnow. Perhaps an improvement upon theſe compound ſtells might be, to disjoin the I or Y from the O, and to hang a door between them. It would anſwer every purpoſe of the preſent form, with this additional advantage, that it would give an eaſier communication with the different parts of the ſtell; and by opening or removing the door from its hinges, would allow the driſt to whirl round the circle without the power of accumulating. The arms of ſuch ſtells commonly point up hill to increaſe the ſhelter; and a quantity of hay is frequently ſet down in their immediate neighbourhood. Some of the farmers have alſo a covered heck, of the ſhape here given, ſtanding in the middle, or at the ſide of the ſtell, which is conſidered a great improvement, as the ſheep can eat out of it in ſucceſſion, without waſting the hay. Indeed, it is impoſſible to calculate the advantages attending this mode of management; for the ſheep are kept in places of ſecurity; they have the power of hay when the ordinary paſtures are locked up, and the ſhepherd and his maſter can ſleep in comfort. Nor ſhould it be forgotten, that the practice of flying to lower grounds is thereby prevented, where they were half ſtarved while away, half drowned in coming home, and the farmer's purſe often wholly emptied. In the year 1802, there was a general flying. Every part of Annandale, Nithſdale, and the lower part of Eſkdale, that could take in ſheep, was completely filled from Crawfordmuir, Tweed-head, Yarrow, Etterick, Eſkdalemuir, the head of Tiviotdale, Ewis, and Liddiſdale; and had the froſt continued eight days longer, there would have been abſolute ſtarvation. One farmer in my neighbourhood paid above 100l. that year for ſnow-mail; and, ſince 1794, ſome of the ſtocks have been five, and others ſix times away on the ſame diſagreeable errand. Indeed, the places to which they flee are becoming more ſhut up againſt them every year by their extended encloſures; and this, perhaps, has contributed much to the late general adoption of ſtells, and the different methods of raiſing hay. For, if a ſtone weight of 24 lib. avoirdupois be barely ſufficient for a ſcore per day, what muſt the quantity requiſite for a large farm be? Generally ſpeaking, the farmers never conſider themſelves as completely ſafe, unleſs they have a year's hay beforehand, which, if not needed for ſheep, can be eaten by black cattle.



Having mentioned all I think neceſſary on ſheep farms, I ſhall next advert to the newly adopted mode of improving land by *irrigation.*

gation. This has long been known in England; but the Duke of Buccleuch is the only proprietor in Scotland who has introduced it extensively on his estate. Indeed, it required an influence like his to bring it in so short a time to its present state; for the Rev. Dr Singers has told us, in his survey of the water-meadows on the Duke's estate, in the third volume of the Transactions of the Highland Society, that Mr Charles Stephens, the flooder, had formed, between 1795 and 1805, forty-two meadows, which contain 415 English acres. But in an improvement of such magnitude, it may be proper to enter somewhat particularly into their formation and mode of management. All meadows, then, are comprehended under the two terms of Catch-work and Flat-flooding. *Catch-work* is easily formed; for, after levelling the surface where it is necessary, the water is brought to the highest part of the field, by means of a channel or conductor, so formed, as that it may flow in it pretty rapidly, and spread itself, as it advances, equally over the ground immediately below it, by means of stops that are placed in the conductor at proper distances. Accordingly, this first channel is widest when it enters the field, and gradually becomes narrower as it parts with its water in proceeding forwards. About the distance of six, eight, or ten yards lower down, a second channel is cut nearly parallel with the first, to collect the water which the first had scattered, and to disperse it again by means of stops. This is commonly all of the same width, because the water is intended to leave it almost as soon as it enters it. Thus, repeated channels are cut at proper distances, and with a proper declivity, till the whole field is flooded; and, when that is done, the water is conveyed completely away, by means of a tail-drain, to some adjoining rivulet. The channels for dispersing the water are commonly formed by raising the sod with a spade, and laying it neatly along the lower side; the stops are either of stone, or most commonly a sod left unraised, at proper distances; and the water spreads over the ground by means of small slits or openings in the sods on the lower side, as the flooder sees occasion. From this account of catch-work, it will be obvious, that the best water must be on the highest plot or compartment; and that every lower one must have poorer water in proportion, on account of the sediment always depositing itself among the roots of the grass as it descends. But Mr Stephens endeavours to correct this, by introducing, where he sees best, a certain portion of the unused water into each of the lower compartments, so as to divide the chances of fertility equally among them. And such is the skill with which he does this, that all the plots are nearly alike; nor does he allow the water to escape him, till he has completely filtered it of its nutritious qualities. In his own laconic manner, it comes

comes on porter, and goes off ſmall beer. Such is the way in which catch-work is made. It is always upon a declivity; and ſeldom coſts more than 5s. or 6s. per acre Engliſh, provided that there has been no levelling.

But *flat-flooding* is both more intricate, and more expenſive; and here it is that the ſkill of the flooder beſt appears. When called to a field, the firſt thing he does is to take the level, and ſee what quantity of water may be brought. This determines the ſize of the field; for flat-flooding requires a great quantity of water; and much expenſe, as well as diſappointment, may be incurred, without attending to it. Here Mr Stephens truſts always to his eye, and laughs at ſpirit levels; but I have known caſes where he has rather been diſappointed. It is but juſtice however to ſay, that he has a remarkably exact eye; and few flooders, if any, of as extenſive an employ, can boaſt of having committed ſo few miſtakes. Having aſcertained thus the command of water, and the largeneſs of the field, the next thing he does is the ſtaking it out by means of pins; firſt, the maſter-conductor; then the feeders; and, laſtly, the tail-drains: ſhifting always the pins till the whole field has been properly divided. It is impoſſible to commend too much the talent he poſſeſſes of adapting the feeders and drains to the varying ſurface of the meadow; for two fields are ſeldom alike, and yet every part muſt be completely watered. Hence they are ſometimes ſtraight, and ſometimes ſerpentine; ſometimes all regular flat-flooding, and ſometimes interſperſed with pieces of catch-work. Yet theſe are all ſtaked out, and the effect preſent to the eye of his mind, before a ſpade is taken. After ſtaking, the next ſtep is the forming of the different parts. With reſpect to the *maſter-conductor*, it muſt be of that ſize as to contain the water eaſily, and of ſuch a declivity as neither to be run into holes by the too great celerity of the ſtream, nor filled with mud by its too great ſluggiſhneſs. This maſter-conductor paſſes from the river in an open channel along the upper ends of the feeders, and gives to each its proper quantity. The *feeders*, which are always along the crowns of the ridges, are formed like the feeders in catch-work; with this difference, that the ſods and ſoil are laid on either ſide, and their width and depth are in exact proportion to the quantity of water they are meant to hold. Thus, they are wideſt and deepeſt where they join the maſter-conductor, and always decreaſe in their dimenſions as they depart from it. Their very contraction, therefore, commonly ſerves in place of the ſtops uſed in catch-work; but when they go down any conſiderable declivity, they have ſtops, both to check the rapidity of the current, and to diſperſe the water equally on either ſide. As the feeders run along the crowns of the ridges, ſo the

tail-

tail-drains run along the furrows, and are the exact counterpart of the feeders; for, whereas the feeders are largeſt at the upper end of the field, and diminiſh as they approach the foot of it, the tail-drains are narroweſt at the upper end, and increaſe in ſize as they reach downwards. The reaſon of this difference is, that the tail-drains are intended to receive what the feeders are conſtantly diſcharging. And ſhould there be a ſcarcity of water for any particular part of the field, it ſometimes happens that this is corrected by turning the neighbouring tail-drain into the feeder that ſupplies that particular part by means of embankment, thereby giving it its proper quantity. When the field has been thus laid out and formed, a bank is thrown acroſs the river, the water is raiſed to the proper level, is conveyed along the maſter-conductor, diſperſed among the feeders, and collected again by the tail-drains, ſo as to be emptied into an adjoining river or rivulet. Should the quantity of water which can be commanded be found defective at ſome part of the ſeaſon, it is not unuſual to have ſmall ſluices at the heads of the principal feeders, to exclude it from ſome, and admit it to others, as the flooder thinks fit. It is not always eaſy to fix, as a general rule, the proper declivity, either along the crown of the ridge, or from the crown to the furrow; but, from the obſervations I have made, and they have not been few, I believe Dr Singers's calculation to be pretty accurate. He mentions one inch for every nine yards, as the declivity of the feeders along the crowns of the ridges; and two inches for every yard, as the proper declivity from the crown to the furrow. The width of the ridges is alſo various, but the narrow are reckoned the beſt; becauſe the water on them is not ſo much impoveriſhed as on thoſe that are wider, and conſequently the crop is heavier: the only drawback is the additional expenſe. With reſpect to the expenſe of forming a meadow for flat-flooding with the ſpade, it varies conſiderably, according to the quantity of levelling. I know ſeveral that coſt 3l., 4l., and 5l., and one that coſt 7l. per acre; but the average is commonly computed to be about 5l. This expenſe, however, will be much reduced, if the field intended as meadow ſhall be gathered by the plough into ridges of the proper form, and ſown with graſs ſeeds. The mere cutting of the feeders and drains, in that caſe, will be comparatively trifling. It is eaſy to ſee that, in flat-flooding eſpecially, a part of the ſediment will fall to the bottom of the feeders; and that, at the end of the flooding ſeaſon, ſome of theſe feeders will be conſiderably choked up, eſpecially if the water applied ſhall be rich in quality: hence the practice of cleaning them annually before the water be introduced. But this is not an expenſive operation; for the cleaning out and keeping the meadow in annual repair is commonly

commonly calculated at 5s. or 6s. per acre Engliſh, barring accidents. Let it be remembered, that the expenſe of flooding, as well as the formerly mentioned improvements of ſurface-draining and mole-catching, is ſolely defrayed by the tenant: Nor is it done reluctantly; for, although it were leſs productive than it really is, they would cheerfully undertake it to ſatisfy his Grace of their reſpect and gratitude.

I have heard many diſputes, and read a good deal, on the kinds of water beſt ſuited for irrigation; but I have reaſon to know, that any water will pay for catch-work, if in ſufficient quantity; whereas good water only will pay for flat-flooding. Yet I am not inſenſible to the comparative merits of the different kinds. Spring water gives an early bite for ſheep. Calcareous ſprings are beſt for paſture; and ſediments of mud or clay, the drippings of dunghills, and the refuſe of villages, commonly inſure a heavy hay crop. Even moſs water itſelf, which has been ſo much reprobated, has been found by many not to be without its uſe. It is a pleaſant circumſtance attending this ſpecies of improvement, that its effects are ſoon ſeen. Fog is deſtroyed, the tough red ſod is converted into a rich black mould, and better plants make their appearance. With reſpect to the times of applying the water, they are various according to the views of the farmer. Perhaps he is in general too late; for, if the deſire of making the moſt of the foggage did not prevent, one would be led to think that, in place of waiting till November, the beginning of October would ſuit better. The meadows, in that caſe, would receive the dung which the ſheep and black cattle had depoſited on the hills in the ſummer and harveſt months, and which is allowed to paſs, by the preſent management, without any other benefit than that aſſigned by the vulgar, of giving food to the fiſhes. So long as the weather continues mild, the water is allowed to remain on the meadow, and ſome have even recommended its continuance during froſts: but experience will ſoon convince them of their miſtake; for the cake of ice is ſeldom general; the water, in place of being equally diſperſed, burſts out in different places, to the injury of the drains and ſurface; and ſometimes, when the owner leaſt expects it, a thaw comes, and drives every thing to confuſion. It is better, therefore, to remove it on the appearance of froſt, and apply it again at the approach of ſpring, when it ſhould continue till the end of March in low ſituations, and the end of April in hilly diſtricts; at which times, a ſtrong vegetation appearing, it is found prudent to finiſh the proceſs.

The important advantages of water-meadow, when properly attended to, muſt be obvious to every practical farmer. If he has a sheep ſtock, he can lighten it much in ſpring, by bringing what

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is thought proper into the meadow. It is commonly a month earlier than the hill pasture, and may be of immense advantage to early lambs in a late spring. When employed in pasture during the summer, it commonly pays remarkably well. It is a rich top dressing, at little expense. Or, if hay is preferred, it is easy to see the vast resource afforded, whatever be his views. An average crop is estimated, by Dr Singers, at 150 stones per acre, of 24 lib. avoirdupois; and the hay produced on the whole water-meadows on the Duke's estate, at 60,000 stones *per annum*. Now this, when given to black cattle or horses, must turn to very considerable account; but, to sheep proprietors, the value is incalculable. At a stone to the score, which is the common calculation, it will feed 60,000 sheep for twenty days, and thus ensure a continuance of nourishment to these useful animals till the return of thaw, or till some other method be fallen upon for their relief. Nor will the value of the foggage be overlooked, since farm stock of different kinds may thereby be benefited. But let the farmer beware of introducing water, especially in autumn; for twenty-four hours floating will rot his sheep. The English improvers of sheep stock know this well; therefore, to prevent the butcher from selling to breeders at a high price, what was bought for fat at a low, they often turn them into the meadow before they go away, with the intention of tainting them. I do not pretend to assign positive reasons for this effect of the water in harvest, although several have been given. Perhaps it may be, as some have said, that the eggs of the flukes, which are afterwards found in the livers of rotten sheep, are conveyed by the water; or, according to others, that the soft, rich, sandy grass which the water produces, may create a tendency to that complaint, when eaten before the dry, sapless grasses of winter. But one thing is certain, that the malady is occasioned by the water in harvest only; for all flooders uniformly agree, that sheep may pasture on water-meadows in spring with perfect safety. The only objection to water-meadow is, the constant care it requires; but this is got over, in several places, by the appointment of overseers, who, for a trifling expense, superintend the meadows within their reach. Were it possible for this practice to become general, it would be more in favour of water-meadows than can well be expressed; for, in several instances, I have known the indolence, or numerous avocations of the farmer, more to blame for a bad crop than the unfavourableness of the season, or the barrenness of the soil.

There is only one thing more concerning irrigation which I deem of consequence to be communicated to your readers before I have done; and that is, the soil which experience has shown to be most

benefited by irrigation. It may safely be asserted that all soils, even the richest, will be profited by water; but, in districts where haugh or holm land does not predominate, and where the water does not come loaded with nutritious particles, as in the manufacturing districts of England, it will be matter of consideration with the farmer, whether it will pay better by watering, or under the plough. Several who have made trials incline to the latter opinion; while they readily admit that sour, wet land, which needs to be drained, and which the conductor, feeders, and tail-drains naturally effect; or light, gravelly soils, which require both earth and moisture, are astonishingly benefited. It was for want of this discrimination, and also, I believe, from want of water and want of care, that several of the first formed meadows in Scotland have been restored to the plough; but they have done no injury to the watering system. On the contrary, they have done good; for they have created caution in the formation of meadows, and care in the management of them.

I am far from having exhausted the improvements which the Duke of Buccleuch has introduced on his estates in the south of Scotland; but I have already occupied my full share in your present Number; and shall therefore only add that I am, Sir, &c. W. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I take the liberty of handing you a copy of the resolutions of a general meeting of Roxburghshire farmers, on the subject of the property tax, which they request may be inserted in your Magazine. It would be obliging to the farmers, were these resolutions either inserted at length in your earliest Number, or such notice taken of them, as may serve to promote the cause which the farmers have espoused. I am your obedient servant,

Courthill, near Hawick, 25th Aug. 1808. THOMAS USHER.

Resolutions of the Roxburghshire Farmers on the Property-Tax.

At a general meeting of the Farmers of the county of Roxburgh, held at Jedburgh on Tuesday the 16th of August 1808, ANDREW PRINGLE, farmer at Mossburnford, preses, it was unanimously *resolved*,

I. That by the property-tax act it was intended to impose a tax of *not more* than ten *per cent.* on any description of profit or income.

II. That

II. That by assuming a sum equal to one half of the rent payable to the proprietor, as the profit of every farmer in Scotland during the first seven years of a lease, and assessing the property-tax according to that rule, very many farmers in Roxburghshire, and, they believe, in every county of Scotland, are subjected to the payment of *more* than 10 *per cent.* upon their income.

III. That by estimating the income of every farmer in Scotland, after the first seven years of his lease, to be equal to the amount of one half of the rent payable to the proprietor, and to the further amount of the additional rent, and one half of the additional rent at which his farm might then be let upon a new lease, and assessing the property-tax according to that rule, almost every farmer in Roxburghshire, and, they believe, in every county of Scotland, after the expiration of the first seven years of his lease, is assessed for a greater income than he actually enjoys; and that part of his capital, also, which has been expended on the improvement of his farm, is subjected to the tax as well as his profit; because the capital so expended can only be replaced to him in the form of profit, by the increased value of his farm during the remaining years of his lease.

IV. That in the present state of farming in Scotland, no average computation of farm profits, proportioned to the rent of farms, can come near the truth, when applied to individuals; the profits of farmers being not less various and unequal, in proportion to their rents, than the profits of merchants and manufacturers, in proportion to their capitals, or the extent of their commercial transactions; and there can be no good reason why the property-tax should not be assessed upon farmers in the same manner as upon every other class of the community, according *to returns* of income made in the first instance by themselves; nor can there be any reason to apprehend that the revenue would suffer more from fraudulent or evasive returns in the case of farmers, than in that of any other class of men. If a farmer should make an unsatisfactory return, and could not, from his books or otherwise, satisfy the commissioners that it was correct, there is perhaps no description of income, that of a landholder excepted, which might be so easily estimated by impartial apprisers as the income of a farmer, the subject from which his income is derived being open to inspection, and incapable of being concealed.

V. That no other class of men are liable to pay property-tax without having *some income*, or to pay a higher rate than 10 *per cent.* upon their *real income*; but by the law, as it now stands, the farmer is liable to pay property-tax in proportion to the rent or estimated value of his farm, *without regard to his real income*;

and can get no abatement or relief, even though he may have *no income*, or may be *an actual loser*.

VI. That the meeting cannot conceive it to have been the intention of the Legislature to make the property-tax fall with more severity upon the farmers than upon any other class of the community; and are hopeful that, upon the effects of the present mode of estimating their profits being properly represented, the law will be so far altered as that the property-tax may in future be assessed upon them, as upon every other class of the community, *according to real income*, instead of the present *hypothetical and unequal rule* by which some farmers are assessed who have no income, and almost every farmer is assessed for a greater income than he actually enjoys.

VII. That having stated the hardship of their case in a memorial to the Lords Commissioners of his Majesty's Treasury, and having received intimation that their Lordships do not think it advisable to recommend to Parliament to alter the present mode of estimating the profits arising from the occupation of land, the farmers of Roxburghshire will now, either by themselves, or in concurrence with the farmers of other counties in Scotland, present a petition to Parliament, or adopt any other coustitutional measure that may be judged proper for obtaining an alteration of the present mode of estimating the income of farmers; and they will be happy to receive communications on this subject from the farmers of other counties, which may be addressed to Thomas Usher, farmer at Courthill, near Hawick.

The meeting appoint Adam Walker, farmer at Mellendean; James Hogarth, farmer at Baillieknow; Thomas Thomson, farmer at Attonburn; Andrew Pringle, farmer at Mossburnford; Peter Brown, farmer at Newton; John Riddell, farmer at Timpendean; William Turnbull, farmer at Burnfoot; James Grieve, farmer at Branxholmbraes; Thomas Scott jun. farmer at Northhouse; Andrew Blaikie, farmer at Holydean; Andrew Thomson, farmer at Bewlie; James Robson, farmer at Greatlaws; John Elliot of Whithaugh, and Thomas Elliot, farmer at Kirnton, a committee of their number, to correspond and advise with John Rutherford Esq. of Edgerston, Member of Parliament for the county of Roxburgh, * on the subject; and either to concur with the farmers of other counties in a petition to Parliament, or to draw up a separate petition for the farmers of this county, as may be thought most advisable, and in general to attend to and manage

* Since these resolutions were entered into, the landed gentlemen of Roxburghshire have agreed to petition Parliament for amending the property-tax act, in so far as farmers are concerned.

nage this business in their name; and they authorise their committee to transmit copies of these resolutions to all the Members of Parliament for the counties and burghs of Scotland; and to request the united influence and exertions of the landholders of this county for obtaining an alteration of the present mode of estimating the profits arising from the occupation of land; and to publish these resolutions in all the Edinburgh newspapers, the Kelso Mail, and such other English or Scotish newspapers as the committee may think proper.

The Meeting wish it to be distinctly understood, that they approve of the principle of the property-tax. It is not a tax of 10 *per cent. upon their income of which they complain. They complain only of being assessed according to a* hypothetical and unequal rule, *by which the profits of farmers are estimated to be much greater than they really are, while every other class of the community is assessed according to returns of real income. The object at which they aim, is only to be put upon the same footing with their fellow-subjects. Were that done, the property-tax would meet with their entire approbation, and they would pay it cheerfully, whether at the present rate of* 10 *per cent. upon their income, or at any other rate that may be found necessary for the support of government, and the defence of the country.*

NOTE BY THE CONDUCTOR.

THOUGH eleven farmers out of every twelve have always considered the criterion adopted by the Legislature for assessing them under the Property-act, as arbitrary, inconsistent and oppressive; yet it must be noticed, that their complaints have seldom been publicly expressed. Even when influenced, by the severity of the act, to state its oppressive tendency, their applications for redress have been couched in the mildest and most respectful terms,—rather supplicating relief as a favour, than claiming the right of being assessed upon the same principles as affected all other members of the community. It is not difficult to assign causes for this moderate and pacific conduct. The farmers are a loyal body of people, and seldom disposed to trouble the ruling powers upon public matters. Unlike the mercantile and manufacturing interests, farmers in general patiently submit to every legislative enactment; considering the slightest opposition to the measures of government as savouring of disloyalty. We do not mean to defend this pusillanimous conduct, being satisfied that the occupiers of land have as much interest in the welfare and prosperity of the state, as any set of men whatever. It is enough for our argument, that reasons such as these have hitherto influenced farmers, almost in every district, to keep silence under the operations of the Property-act. The ice, however, being

now broken, and that by a body of men whose loyalty and integrity are unquestionable, it is fair to presume that meetings will instantly take place in every county, and that the laudable and meritorious measures of the Roxburghshire farmers will be strongly backed by their brethren in other districts. Though relief has not been obtained from the applications of one county, it is morally impossible that it could be refused, were applications to be general, especially if supported by the landed interest, which fortunately has happened in the county whose resolutions we are now considering.

So much has been urged in this Magazine, at different times, respecting the injustice of estimating the gains and profits of farmers according to the extent of their rents, that little remains to be stated on the present occasion. Upon the general question, namely, whether the gains and profits arising from farming are equal to one half of rackrent, we presume every man, who is practically acquainted with the hazards and expenses which attend farm-management, will at once answer negatively. Indeed, we have not at any time heard an argument in defence of the rule, hastily assumed by the Legislature, whereby farmers were to be assessed, except that it was a very convenient one, and that, under its operations, more money could be levied, than by fairly resorting to gains and profits actually received and enjoyed. Those who take up this ground of defence, undoubtedly do not do much honour to the act, because its injustice is indirectly admitted, by acknowledging that more money is levied in this way than could be procured by adopting any other. It is precisely upon this ground that the act is objected to by farmers. They say that their gains and profits are not equal to one half of rack-rent; and that injustice is committed, for no better reason, than that conveniency may be promoted. If this is the case when the question is considered generally, what must the result be when the rule is applied to individual cases—to the possessors of good land, and to the possessors of bad land—to those who have good bargains, and to those who have bad ones—to the occupiers of grass land, and to the occupiers of corn land? In a word, no general criterion can be just, when applied to the profits or gains of a profession whose numbers are so great, and whose talents are so diversified. Were the criterion to be correct in one case, it must undoubtedly be false in every other.

Independent of the arguments which occur against assuming one half of rack-rent as the standard of gains and profits, the hardship which arises from valuing land at the end of seven years must be particularly considered. Let us suppose that a farmer takes land for twenty-one years, and that the rent which he covenants

to

to pay is not the rent which the farmer is capable of paying for ſeven years, *but the rent which it is capable of paying during the continuance of the leaſe;* or, more properly ſpeaking, after the farm is meliorated and improved. Was half rent, therefore, to be the true criterion of profits, it would clearly follow, that no valuation ought to take place during the currency of the leaſe, whereby the diſadvantages at its commencement would, in ſome meaſure, have been compenſated. According to law, however, no ſuch compenſation can be given. The firſt year of every leaſe ſeldom affords any income, the tenant living, at that time, on his capital ſtock. In the ſecond year, his condition is not much mended; nor are matters placed upon a fair footing till the ſixth year, when it may be ſuppoſed that the whole farm is completely ſummer fallowed, and reſtored to good condition. Though it is well known that the moſt of tenants, when executing thoſe renovating meaſures, have barely income ſufficient to purchaſe meat and drink to themſelves and families, yet the property-act conſiders them as poſſeſſing ample imcomes (ample they muſt be, according to the principles of the act, now when rents are ſo high), therefore directs that they ſhall be taxed accordingly. All this might be viewed as very fair, was the tenant permitted to reap the fruits of improvements, without being ſubjected to additional taxation. The act, however, gives no ſuch permiſſion. It directs, that when the barren years are over, *i. e.* at the end of ſeven years, a freſh valuation ſhould be made, and that the farmer ſhall be taxed at no leſs a rate than fifteen *per cent.* of the increaſed worth of his farm, namely, five *per cent.* as tenant, and ten *per cent.* as ſtanding in the ſhoes of the landlord. This we conſider to be the moſt grievous feature of the act, though the effect of the clauſe which contains it is not at this time fully felt. In fact, it cannot be fully felt till 1810, when its miſchievous conſequences will be completely aſcertained.

But why ſhould any general rule be aſſumed for aſcertaining the gains and profits of farmers, when common ſenſe ſays that ſuch a general rule is a contradiction in terms? The profits of farmers are more variable than the profits of merchants, depending much more upon phyſical circumſtances, not to be controuled by the moſt induſtrious cultivator. The leaſe of the farmer is no more a tangible mark for aſcertaining gains and profits, than the invoice of the merchant, or the bill of lading of the ſhipmaſter. The farmer is expoſed to more loſſes than the merchant. With reſpect to bad debts, both are alike; but, in every other inſtance, the hazards which encompaſs the farmer, greatly exceed thoſe which are attendant upon mercantile people. His wheat may be mildewed; his live ſtock may be attacked by murrain, and other

mortal diſorders; and his corn fields may be ſcattered and rotted by high winds and heavy rains. Notwithſtanding theſe circumſtances—notwithſtanding that he may be beggared and ruined—without a halfpenny in his pocket, and, in ſhort, in a ſtate of complete bankruptcy, the act ſtill conſiders him as enjoying a rich and full income. It gives him no allowance or deduction, even were his loſſes to be ſubſtantiated by the fulleſt evidence and vouchers. Why farmers are treated in this way, we are at a loſs to learn. Very different treatment is given to merchants and manufacturers: they are allowed to prove a loſs, and to receive relief in a proportional degree.

Perhaps the act is wrong, even as it applies to merchants and manufacturers. By permitting each man to aſſeſs himſelf, it certainly holds a door open for fraud, by which the covetous and churliſh may enter. The principle of the act is a good one, when confined to actual gains and profits; and we would wiſh to ſee it carried into execution in a more plain, equal, and diſtinct manner than has hitherto happened. At preſent, landed proprietors may be conſidered as the only claſs fairly taxed; becauſe, while farmers pay too much, there is ſome reaſon to think that merchants, manufacturers and others, pay too little. This ariſes, in a great meaſure, from theſe claſſes being allowed to tax themſelves; and the like evil would enſue were farmers to receive a ſimilar permiſſion. Were all profeſſions to be aſſeſſed, in the firſt inſtance, by a public officer, an amendment of great importance would be made upon the act, providing it was expreſsly declared that the power of diſproval was reſerved in the fulleſt manner to every individual. A plan of this nature was, in 1804, ſubmitted to the conſideration of his Majeſty's miniſters, who did not chuſe to adopt it, chiefly, we believe, from the ſlight oppoſition then ſhown to the original act. We cannot do better than preſent to our readers an abridgement of that memorial, taken from a copy communicated at the time, which met with our hearty approbation.

"The property-tax, abſtractedly conſidered, is a fair and equitable meaſure. The principle of the bill paſſed laſt ſeſſion, is, that every perſon poſſeſſing an income of ſixty pounds ſterling, or upwards, ſhall pay a certain part thereof to government. The principle here laid down is a good one; for, certainly, every perſon enjoying the bleſſings derived from a well regulated government, ought to contribute to the ſupport thereof in a degree proportional to the extent of his means and abilities.

"In the caſe of the occupiers of land, the principle laid down in the preamble of the property-act, is totally departed from in the ſeveral clauſes which regulate the aſſeſſment to be made upon them; and their incomes are directed to be aſcertained by a rule

which

which is vague, arbitrary and inconclusive. The rent ſtipulated to be paid to proprietors, is aſſumed as a fair criterion for aſcertaining the income of occupiers; though every man, in the leaſt degree acquainted with rural matters, knows that ſuch a criterion is altogether fallacious and unfounded. Land naturally rich, pays a greater ſhare of its produce by way of rent, than what is of inferior quality, becauſe the expenſe of cultivation is not ſo great, whilſt the produce is of ſuperior value. Beſides, the income of tenants or farmers can in no caſe be conſidered as equal to one half of rack-rent. In the way that the act has been explained, few tenants have this year been aſſeſſed at leſs than ten *per cent.* * upon their incomes; many have been rated ſo high as twenty, and even thirty *per cent.*; and others, ſuch as tenants who have recently entered to farms, have been returned as enjoying affluent revenues, when, in fact, they were living upon their capital ſtock. In ſhort, ſuch a tax, at any other time than the preſent, would have kindled a flame which would not ſoon have been allayed.

"To remove ſuch a flagrant evil, and to place cultivators of the ſoil upon the ſame footing with other claſſes of the community, ſeems not only an act of juſtice, but a meaſure called for by every motive of expedience and propriety. To further theſe ſalutary ends, the following rough ſketch of a plan for aſſeſſing and collecting the property-tax, is humbly ſubmitted to his Majeſty's miniſters. Perhaps ſome parts of the plan might alſo be uſefully adopted with regard to merchants and manufacturers. But, be this as it may, the amount of a five *per cent.* tax upon agriculture will juſtify the paſſing of a ſeparate bill for regulating the aſſeſſment to be made upon that particular branch of property.

"1. It is propoſed that the act of laſt ſeſſion, ſo far as it affects the proprietors and occupiers of land in Scotland, ſhall be repealed, and a new bill introduced into Parliament for regulating the mode in which their contributions are in future to be levied. It is recommended in the moſt ſtrenuous manner, that the bill be conciſely worded; that tautology be avoided; and that each clauſe be couched in terms ſo diſtinct, that every perſon who can read the Engliſh language, may at one glance comprehend the meaning thereof. It will be recollected, that the bill is to operate upon people who cannot generally be conſidered as well qualified to develop the intricacies of multifarious and complicated enactments.

"2. The commiſſioners for executing the act, may be choſen in the ſame way as directed by the act of laſt ſeſſion; but it will be uſeful to add three or more actual farmers to the number therein

* The tax was only five *per cent.* upon income when this memorial was written.

in ſpecified, ſo as the Board may be ſufficiently inſtructed in the nature and extent of the profits to be charged upon occupiers. No qualification of property to be required from theſe additional commiſſioners; nor ought they to ſit in judgment when any other matters, except ſuch as relate to aſſeſſments upon proprietors and occupiers of land are under conſideration. The Board thus compoſed, ſhall appoint their clerk, collector, and ſuch a number of aſſeſſors, as the extent and population of the diſtrict under their direction may require. In general, it may be obſerved, that aſſeſſors ſhould be choſen who are well acquainted with the diſtrict to be put under their charge: that they ſhould either be land ſurveyors, land-ſtewards, or actual farmers, and of knowledge and integrity. The propriety of reſtricting the aſſeſſors to theſe claſſes, will be diſcernible, when an after point is conſidered.

" 3. The tax for 1804, and ſo on, to be aſſeſſed upon the rents and profits of 1803; that is, proprietors ſhall be charged according to the rents payable to them in 1804, for crop 1803; and occupiers of land ſhall be aſſeſſed according to the extent of profits or gains actually made by them upon the premiſes during the preceding year,—after rent, expenſes of cultivation, money laid out upon repairs, or in purchaſing manure, is deducted. The horſe-tax alſo to be deducted from the occupier's aſſeſſment; and land-tax, miniſter's ſtipend, and poor rates, allowed to thoſe who actually bear theſe burdens. The occupier to be free of tax in the firſt year he poſſeſſes, it rarely happening that profit or gain can be acquired at the outſet.

" 4. An intimation to be made by the aſſeſſor to proprietors or their factors, requiring a liſt of their ſeveral rents; and, in caſe of no return being made, the aſſeſſor ſhall value the land himſelf, and charge the proprietor for his trouble in doing ſo, along with the aſſeſſment to be levied. When returns of rents are made by proprietors, aſſeſſors may call, if they ſee cauſe, for a production of leaſes, or other writings, under which the lands are poſſeſſed. Appeals may be made againſt the aſſeſſments, if ſuch exceed the returns made by proprietors, or if they are made from *ex parte* valuations; and for abatements on account of public burdens.

" 5. In the caſe of occupiers, the aſſeſſor, after ſtrictly inveſtigating the premiſes occupied, the mode in which the land has been managed, and other circumſtances which tend to aſcertain the profits or gains thereupon, ſhall proceed to aſſeſs each occupier of land, agreeable to the opinion he has formed from previous inveſtigation, or from information that may have been communicated to him. Appeals againſt this aſſeſſment may be made to the commiſſioners, who may make an abatement, if ſatisfactory evidence is produced that the income of the occupier is leſs than returned by the aſſeſ-

ſor.

ſor. The expenſe of farm management is now ſo well underſtood by experienced agriculturiſts, that an aſſeſſor, properly qualified, if he makes ſuitable inquiries, and reflects upon the ſtate of markets during the period in queſtion, can hardly go far wide of the real profits. If he does, the liberty of diſproving is left to the occupier, who, it is to be preſumed, will rarely be inattentive to his own intereſt, or neglect to claim the different allowances to be made. This mode of aſſeſſing is, to be ſure, a ſtrong meaſure; but, if ſtrong meaſures are not reſorted to, ſuch a tax cannot be rendered effectual. At all events, the burden, in this way, will fall infinitely lighter upon the occupier of land, than under the operation of the exiſting bill; for no aſſeſſor of common ſenſe would rate the profits of farmers at any thing like what has been done in many diſtricts by the commiſſioners appointed to execute the property act.

"Perhaps this mode of aſſeſſing might be profitably adopted in the caſe of merchants and manufacturers; at preſent, the taſk of diſproving lies upon the public aſſeſſor, who ſeldom has the means of doing it effectually."

It remains only to be added, that the reſolutions of the Roxburghſhire farmers are well drawn, and display ſomething of that independent ſpirit which we earneſtly deſire to ſee animating farmers on every occaſion. They propoſe no ſpecific meaſure of amendment upon the act, but reſolve, in general terms, that they are entitled to be put upon the ſame footing with their fellow-ſubjects. This is a reaſonable and well-founded claim, which we are almoſt ſure would have been gone into long ago, had farmers ſteadily and heartily ſought after it. The ſilence ſo long maintained by farmers will however leſſen the force of their objections at this day, and cauſe a removal of the grievance to be more of a herculean taſk than it would have been at the outſet. Be theſe things as they may, though clear that gains and profits are in this caſe the alone ſources of taxation, yet we are not ſure whether it would be ſafe or prudent to take a return of thoſe gains or profits from the perſons who are to be taxed. Perhaps the preferable way would be, to aſſeſs every man, no matter what his profeſſion may be, by a public officer, leaving, as ſtated in the foregoing memorial, the perſon aſſeſſed the right of diſproving the extent of the aſſeſſment, either by parole or written evidence, before it was ratified and confirmed by the commiſſioners. In this way the public would be ſecured, while it would ſcarcely be practicable to oppreſs an individual, unleſs he neglected his own intereſt, or failed to take the neceſſary ſteps for diſproving an exceſſive aſſeſſment. We are almoſt convinced, that

that something such as the plan here recommended, must be gone into, before relief from the system presently acted upon in Scotland for assessing the property-tax upon farmers can be expected or obtained. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Shell Sand.

SIR,

I HAVE understood it a very important advantage attending your valuable publication, that from you, or some of your many correspondents, the uninformed may have their inquiries solved in any branch of rural economy.

The shores, in many parts of this county, are inexhaustibly supplied with that vauable article shell sand, so pure, in general, as to be almost wholly calcareous. The farmer is in the practice, where the distance is not very great, of applying this sand as a complete substitute for lime, and to all intents and purposes as effectually for his land. The design of my addressing you is for information, whether any practice exists of converting this description of sand into lime, and, if such practice does exist, what is the process? Should the idea of converting shell sand into lime never have occurred before, I would beg leave to call it to the most serious consideration of your enlightened readers, and earnestly entreat their making known, through the channel of your Magazine, the result of their experiments. The converting this sand into lime has great natural advantages. Being on the sea, the coals can be brought for burning it at a small expense. It can be removed by sea for sale with the greatest facility; while the great expense attending the working of limestone, such as quarrying, driving, and breaking the stones, is saved. When a quantity of shell sand within the reach of the tide is removed, the first sea-storm brings a new supply in its place. In Ireland, I know, they prize this sand so much, that, where it abounds in shallow water, but not on the shore, they fish it up by means of drags, such as are used for raising ballast; and I am confident that many proprietors here might find themselves possessed of a treasure by adopting this practice, who have no idea of its existence with them at present. I have given you my thoughts on the subject very much at random; but have no doubt that it deserves the most serious attention.

Your constant reader

A. C.

Aberdeenshire, 10th September, 1808.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Obligation of Tenants to observe the Rules of Good Husbandry.

SIR,

A GENERAL clause, *without the smallest specification*, is pretty commonly inserted into leases, binding the tenant *to farm the lands he occupies according to the rules of good husbandry*. I understand the interpretation of this clause has often furnished subject of litigation, in your part of the country, upon leases drawing towards a close.

In the following dissertation, I intend to discuss two questions; *first*, Upon supposition of such a clause being at all obligatory, to what does it oblige? *secondly*, What ground there is for the supposition that such an *unspecific* clause imposes any obligation whatsoever?

In regard to the first question, I humbly conceive that, in sound construction of law, as applied to every other species of bargain, this clause (if conceived as creating any kind of obligation at all) must necessarily be interpreted as binding the tenant merely to follow out that kind of husbandry understood by the parties, at the time of contracting, *as good*; but by no means as inferring any obligation to such practice as should subsequently come to be considered *as constituting good husbandry* during the currency of the lease. This proposition, upon the simple enunciation of it, appears so plainly consonant to common sense, that, to one unacquainted with the various opinions which have been adopted upon the subject, it might be matter of doubt whether the truth of it had ever in fact been called in question. It is the seeming prevalence of the opposite mode of interpretation that can alone justify a lengthened discussion.

In all discussions of this kind, it is necessary to refer to established principles of general application. I consider it, then, as an established and indubitable principle, that the proper province of legal compulsitor is merely to enforce the observance of strict justice,—to enforce the fulfilment of every obligation which the one party is bound in justice to perform, and the performance of which the other party has a right to exact, as justly his due. When the compulsitor of law is attempted to be applied to enforce gratuitous claims upon liberality and generosity, the fulfilment of which no one has a right in justice to demand, the law, in such cases, clearly oversteps the bounds of its proper province; it reverses the natural order of things, destroying the existence of liberality and generosity, whose very essence consists in their being purely optional; and equally excluding the proper re-sentiment of gratitude, which can never be felt for the mere fulfilment of a legal claim.

claim. Strict justice, then, (of which the observance entitles to no praise, but of which the breach subjects to merited condemnation) is the only proper object of legal compulsitor. Praiseworthy deeds (which imply a rate of performance, exceeding, in proportion to their praiseworthiness, the measure of the demands of mere justice) cease to be such, so soon as they are made the subjects of compulsion. Men can in no propriety be compelled; they can only, in propriety, be exhorted to them.

But though the fulfilment of mere justice is the only proper subject of the compulsitor of law, I must further observe, that the necessity of human affairs has enforced the substitution of an *artificial* or *constructive justice* to *natural justice*; and the terms of positive bargain are held as constituting the equity of the thing, and, as such, the proper subject of legal compulsitor. Indeed, without such substitution, the business of society must absolutely stand still; for, it were impossible men, in their social capacity, should reap that mutual advantage to be derived from each other in their mutual prestation of equivalents, were the equity of the measure of each prestation ever liable to challenge, till it should be authenticated by voluntary arbitration, or by the authority of regularly constituted judges, after a minute investigation of all the circumstances of the case. The law, therefore, necessarily presumes, that every individual, arrived at the years of maturity, and possessed of common understanding, is perfectly competent to discern and watch over his own rights; and that in all bargains entered into with his own free consent, as to his prestations, he has sufficiently secured these rights. The question for the law to decide, therefore, is, not what is in the nature of the thing equitable, but what are the terms of the positive agreement.

In this substitution, the law, no doubt, in its presumptions, keeps sight always of natural justice. It therefore makes a distinction of persons, and also of the subjects of positive obligation. In regard to persons incapable of managing their own affairs, it interposes a protecting tutory; it presumes not that the bargains they have entered into are equitable, nor suffers them to become bound by their own consent. It makes a distinction also among the subjects of obligation. Perfectly gratuitous obligations (which are obligations to mere onerosity), it will in no shape sustain and enforce—the only instances to the contrary being that of the poor's laws, where a gratuitous claim upon charity has been converted into a legal obligation (although it would appear much more than doubtful, whether these conceived paramount views of public utility have been in any degre fulfilled, upon which this anomalous interposition has been attempted to

be

be justified); and the legal effect given to arbitrary deathbed destination to alter that order of succession, which appears natural and just, as being, in reality, or in strong analogy, a mere continuation of possession to those who had been joint possessors; an interposition which, on the contrary, has been invariably justified, in the preconception, and to the experience of mankind, as an indispensable stimulus to the full excitement of industry. * In all cases, however, where there is no ground of exception against the party on the score of inhability, and where there is an onerous cause of some sort or other, so that the obligation is not purely gratuitous,—the law assumes, that the onerous cause is a suitable equivalent,—that the bargain is just, and must be sustained according to its terms, without further investigation of particulars. Were not this maxim invariably fixed, the law must, of necessity, exercise a most irksome and tyrannical constraint of perpetual tutory over all its subjects, officiously intermeddling in the management of every one's private affairs, without regard to their choice or consent;—a constitution which would be equivalent to the issuing of a sweeping statute of lunacy against the whole inhabitants of the realm.

According to this invariable and necessary maxim of law, every contracted obligation is held binding, unless it is either purely gratuitous, or *contra bonos mores*, or contracted by parties labouring under legal disqualification; and the bargain to be sustained is *the real bargain of the parties*, what they understood and contracted for at the time,—to interfere with which, in the smallest degree, in altering its terms, by construction, into a meaning different from the original understanding of the contracting parties, would be a most officious and irksome interposition of the law or of the judge, subjecting the whole community to a contemptible state of pupilage, as destitute of common understanding to regulate their own affairs.

If we bring these universal and constant maxims of law, which I hold indubitable, to bear upon the *first* question, I presume there can be but one opinion held upon the subject,—*that the obligation can be enforced merely according to the sense of the parties at the time of entering into the contract.*

If a mode of husbandry has been invented during the currency of the lease, by the observance of the rules of which the tenant might leave the lands in a more immediately productive state, and of course more profitable to the landlord, however much the

* It may also be noticed, that the law will give no effect to any obligation *contra bonos mores*—neither to an obligation come under to commit a crime—nor to an obligation to remunerate a crime committed.

the adoption might be hurtful to himself, in his situation; it might be liberal and generous in the tenant to sacrifice his own interest to the promotion of that of the landholder,—he might gain just praise, and avoid those opprobrious epithets of *scourger*, &c. by which self-interest would endeavour to bring into disrepute such practices as are inimical to its views. But the question I agitate, is not to what line of conduct the tenant ought to be exhorted in order to obtain the praise of generosity, but to what he can be compelled by law as matter of strict obligation in justice. And unless, in this instance, the law shall step out of those precincts to which it hath properly limited its compulsitor in every other instance of bargain, it must restrict itself to the compulsion of nothing further than what was contracted for by the contracting parties. The want of liberality in the avaricious towards the poor, may be matter of just regret, as well as the want of it in tenants towards landholders. A humanity, perhaps mistaken, and views of utility however dubious, have led, in the former case, to the enactment of poor's laws as a remedy; removing liberality from its proper footing of option, by converting it into a legal obligation. To compel a tenant to a generosity above what he is bound to in his lease, would be an equal departure from all ordinary established maxims;—it would be the adoption of a mode of law construction equivalent to the enactment of a poor's law in favour of the landholder;—or equivalent to a declarator of *non compos*, by which he was put under tutory of the law, considered as incapable of binding himself by his own deeds, and entitled to more than that to which he had limited himself by contract.

In regard to the tenant, it is indeed obvious, that the law has, for a long period back, departed from those maxims, which I have here stated as established maxims in the interpretation of his bargain. In his case, the law, following out the natural maxims of justice, has had respect to his personal situation; and, considering him as not in a state to have made a proper bargain for himself by his own free consent, had looked upon him as the proper object of legal tutory. Legislative enactment, as well as juridical interpretation, therefore, equally concurred in endeavouring *to make his contract what it ought to be*, instead of *to support it as it was*. As, by the universal condition of his bargain, (either as expressed in writing, if there was any, or as interpretable by consuetude), he was ejectable at any time of his lease by a succeeding heir or purchaser, and was also at all times liable to the extent of his whole stock for the debts of his landlord; his security, in both respects, was established by the Scots acts of 1449 and 1469. By the act 1748, he was also freed from obligation

gation to mere feudal burdens, and from all *unspecified* services of *use and wont*, under the interpretation of which he was often oppressed; and his obligations were restricted to what should be *directly specified* in his lease, with the mere exception of adstriction to mills as was customary, and the obligation to pay one half of the schoolmaster's salary, and one half of the poor-rates where established. Under the benign influence of such liberal enactments, and of a long continued tone of liberal construction in our judges, as likewise of a growing spirit of liberality among the landed proprietors, the Scots tenantry have finally been established in a state of security more favourable to enterprizing exertion than has perhaps ever yet been enjoyed by the actual cultivators of the soil, in any age or nation recorded in the annals of history. I think, however, I can perceive a tendency to an alteration of those juridical maxims which have so long prevailed. I conceive (upon general principles) that the tenant will now be held more competent to make an equal bargain for himself, and will be less considered in the light of a proper object of legal tutory; and imagine that I have perceived (in fact) a confirmation of this conclusion, in the spirit of some later decisions of our courts, where the object seems to have been *to enforce the bargain as it was*, rather than *to pay regard to what it ought to have been.* And as the tenantry are coming more and more to be considered as sufficiently able to stand upon their own legs, it certainly behoves them to be the more considerate as to the terms of bargain to which they shall subject themselves in the conditions of their leases. But however much tenants may have formerly been considered, from their then depressed state, as proper objects of the interposition of legal tutory, no state of society has ever yet occurred, nor will occur, (excepting perhaps during the irremediable but short lived paroxysm of revolutionary delirium) in which the landed proprietor, either did lye, or was conceived to lye, under such a state of thraldom to the actual cultivators of the soil, as to stand in real need of the protection of legal tutory, to defend him against the iniquitous terms of bargain, which the disadvantages of his situation might constrain him to come under in his agreements with his tenantry. * Upon these grounds, then,

* I can indeed conceive no way in which the landed proprietor can easily be supposed to be placed in any sort of dependence upon his tenantry, excepting by the extension to them of the right of franchise, as was done in England, in the struggles of monarchy against aristocracy. But the landholder can easily redress himself, by reducing such imaginary freemen to the state of mere servile retainers, in withholding all security of leases, (so universal in Scotland) and keeping them in the abject state of mere tenants at will.

I revert to the original position, that the law (whatever it may have done, or may still do, or not do, in favour of the tenant, in respect to his more dependent situation) will not, and cannot, with the smallest propriety, interpose its favourable tutorial interpretation for behoof of the landholder; but will and must interpret the clauses of the lease, in regard to him, according to those salutary maxims it hath uniformly adopted in the interpretation of all bargains entered into by parties standing upon an equal footing, and that is, *according to the sense of the contracting parties at the time of the agreement.*

Were we to admit of an interpretation—far-fetched and violently strained indeed—the obligation *to observe the rules of good husbandry* might be wrested to signify, not that which was, at the time, considered to constitute good husbandry *by the contracting parties*, but as an obligation to follow such practice as should, at any time during the currency of the lease, be considered as good husbandry *by other people*; (and that, *as a subject of future discussion and litigation*,—whether as so considered by the superior enterprising few who take the lead,—or by the sluggish many, who often manifest a backwardness in following,—or by the Scottish Professor of Agriculture, if such an institution should then be in existence.) The import of such a contract would be, that the parties had bound themselves to—a something, but to what, neither knew: That the tenant had, meanwhile, bound himself to the certainty of a lawplea, but to nothing else certain: That he had bound himself to a liableness to have every step he should take interrupted, even during the currency of his lease, till the competent judges of good husbandry (whether majority, minority, or agricultural professor) should sanction his measures; thus renouncing all pretensions to a capacity of judging, and to free agency, and reducing himself to the state of a mere machine under external direction, in whom all power of reasoning is superseded: That he had bound himself in an obligation, under which, if the new discoveries of good husbandry (sanctioned unequivocally, as above, to be such) were of recent invention, he might, towards the close of his lease, be compelled to adopt that expense of preparation which every change of system necessarily implies, without a possibility of reaping any advantage from this expense; under which too he might, oftener than once during his lease, be compelled to this wasteful change of system, from the ambulatory nature of a subject in a state of continual progression; under which, also, at the expiry of his lease, he might be exposed to heavy damages; either because his own ideas of good husbandry happened to differ from those of the judge, or such arbiters as he appointed; or because his own adoption of similar ideas with those

those of the judge or arbiter, had come too late to enable him to change his system without manifest loss. Such a construction of the tenant's bargain would indeed evince him to be such a fool, as to be equivalent to a declarator of his lunacy; which, if the law sustains, it ought also to extend to him the protection of legal tutory; and I know no way in which this could be so appropriately extended, as by holding such an absurd clause (if such is to be its interpretation) perfectly null and void.

If this clause in a tack is then to be held as at all obligatory, it seems clear, that it can only be construed as inferring an obligation to farm, according to what was understood by the parties to constitute good husbandry at the time of their entering into contract.

I have indeed heard it seriously maintained, that in a litigation upon such a clause, it would be necessary that the judge should decide upon it, as inferring an obligation to farm according to presently existing notions of good husbandry, from the ease, as was alleged, with which we can come to the knowledge of these, and the difficulty of ascertaining what was approved of as such at the period of the contract. If a judge, however, shall think it proper at all to interfere in giving decision upon a subject, where the grounds of judgment must be so very vague and inexplicit, I cannot see that he is at all entitled to reverse the constant and established maxims of legal interpretation as to bargains, merely because, through such reversal, he produces greater facility in the proof. Neither (if such an argument did indeed deserve consideration) does it appear clear that there would be more difficulty in the one case than in the other; the inconsiderable period of the duration of a tack, though too distant for the distinct recollection of all the circumstances of a fact, being probably even more favourable for the well digested recollection of a general view upon which to found an opinion. If it shall be alleged difficult to fix upon the exact features of a subject which has been continually varying through progression in improvement, the same difficulty must equally apply to modern as to antient practice; unless, indeed, we shall allow that we have become absolutely stationary, through failure of enterprize; or shall vainly suppose that we have already attained to the very *acmé* of perfection, beyond which there is no further progress to be made.

But though, Sir, I thus have advocated the interpretation of the clause, *as applicable merely to what was understood to be good husbandry by the contracting parties*, as being the only interpretation consistent with those sound legal maxims followed out in all other cases of bargain; I am nevertheless abundantly sensible, that nearly equal absurdities would follow upon this interpreta-

tion as upon the other. The tenant might be equally interrupted in every operation to which he should set himself during the currency of his lease, till it was properly ascertained whether this was consistent with what was generally approved as good husbandry at the date of the contract; unless, indeed, the proprietor and tenant had gone over the whole system verbally before contracting, and could mutually trust to each other's memory as to the particulars thus agreed upon, as also to each other's good faith; or unless judges or arbiters, called in at the commencement of the lease, should mark down a complete system of good practice for the farm, embracing every supposeable particular for the whole duration of its currency. He would equally, under this interpretation, be reduced to the state of a mere machine;—thought would be equally precluded, and all enterprize or experiment; farming would necessarily become stationary; and a litigious landlord might impose penalties even upon ascertained improvement, as a contravention of bargain. Judges, too, adopting either system of interpretation, might be inextricably puzzled as to the interpretation of *good*. Does it mean the *very best*, or *the next best*, or *the next again*? Is all *good*, that is not *positively bad*? and where are the precise boundaries to be fixed where good ceases, and bad commences?

In my answer, then, to the *second* question proposed for discussion at the outset, (in which I doubt not your readers have already anticipated me), I am decidedly of opinion, that, according to the soundest principles of law, as followed up, either in legislative enactment or judicial interpretation, no regard at all should be paid to such vague and indefinite clauses, and they ought not to be considered as a proper subject of judicial investigation or of legal enforcement.

In the spirit of these sound and wholesome principles, the Legislature, in 1748, enacted, that no vague clauses of *use and wont*, in leases, should be at all obligatory upon tenants; that they should be bound to no prestation but what was *definitely and explicitly specified* in the lease, with exception only of such obligations as are specifically mentioned in that act, and such as Parliament should hereafter specifically impose. In the sound construction of *even the very letter of this act*, I am clearly of opinion that the clause in question is fairly deprived of all claim to legal support.

As to the propriety of judicial interference, I would beg leave to refer to one of the latest judgments pronounced by the late respectable Lord Kenyon, in the case of a physician employed without any specified terms of bargain, and you will find it proceeding upon the same sound principles. He refused all interposition of law, in a case where it would have been necessary to go into

into a proof of the vague circumstances of use and wont; laying it down as a general maxim, that no bargain could be legally enforced where there was no precise specification of terms.

Public utility, which, no doubt, in many cases of urgency, is paramount to every private right, has been considered as deeply interested in the practices of the tenantry; and has indeed sometimes been held as sufficient ground for interfering with the tenant's management, on pretence that he may diminish production, even in open leases, where there is not even the vague restrictive clause *obliging him to the rules of good husbandry*;—and unquestionably this would furnish a more plausible ground of interference, than a mere regard to the immediate interest of the landlord: and yet, were this the real ground of interference, why should it not be thought equally competent for the public to interfere with the much more deteriorating acts of the proprietor, by means of legislative enactments, and a public overseer? I believe, however, it would be deemed ridiculous in the extreme, that any views of immediate public utility should call upon the interference of the legislature or the judge to prevent the spendthrift proprietor from essentially deteriorating his pastures by dismantling them of their shelter of woods—or from procuring the command of money, by letting out his grass parks for scourge cropping—or even to correct the absurd conditions of his lease, which may condemn the farm to a comparative sterility: superior views, of more extensive utility must, in common sense, here prevail, in securing its proper stimulus to industry, by ascertaining to the proprietor the full command of the subject of his property, either as to its use or abuse.

Now, in my humble opinion, the same extended views of utility should cause it to be deemed equally inconsistent with either legislative or judicial dignity, to interpose their authority in harassing the tenantry during their possession, or at their outgoing, upon the vague, unspecific clause, *obliging them to the practice of good husbandry.* Let the outgoing tenant do his worst; and all the damage he can effect is but trifling and temporary, and what may very speedily be repaired, and utterly unsuitable to the dignity of either legislative or judicial interference. As a mere usufructuary of the annual productions of the soil, he knows that he can neither rob the property of its minerals, nor deprive it of the shelter of its woods, nor convert the soil into bricks, nor carry it away elsewhere to be converted into compost middens; neither is it in his power, by any mode of farming, to alter in any way, essentially, the natural quality of the soil, so as to transform a fertile clay into a barren sand, or a barren sand into a fertile clay. The tenant's own interest abundantly secures the best manage-

ment during the currency of the lease, to the best of his ability at least; or, if he is deficient for the undertaking, either in skill or capital, he is sure to be beat out of the possession by a competitor superior in both respects, at the end of his lease; nay, this may take place even during its currency, from the capacity of one of the latter description to afford him more than he can make, if he is not absurdly deprived of the privilege of subsetting. It is only for perhaps the last three or four years of the lease, that the tenant's interest can possibly diverge from that of the landlord; and, if the landlord should suffer a little in his interest for these years, he will soon profit by the correction, in taking care to insert *specific* restrictive clauses as to these years, which, as *such*, may with propriety be supported by law, without any reversal of those sound judicial maxims, adopted in all other cases. * In short, the matter may be safely left to regulate itself. Better farming can afford higher rents; and higher rents offered, compels to better farming, without which, the tenant who bigottedly adheres to the less productive system, must be beat out in the competition; and proprietors may be safely left to take care of their own rights by *specific regulations*, without any necessity of the law or the judge travelling out of their proper precincts, in order to secure a trifling immediate utility which will be secured, at any rate, of course.

I am well aware, Sir, that there is a prevailing clamour against the practices of outgoing tenants; and that landed proprietors are apt to look upon them with something of that aversion and horror which the rabble entertain against meal-dealers in the time of dearth. These prejudices of landholders are, indeed, easily accounted for. Every tenant about to bid for a farm, like the cheapener of every commodity, endeavours to beat down the price by every feasible allegation tending to diminish its value. Now, as he well knows that the credulity of no landlord could swallow the monstrous absurdity *of the preceding tenant having carried away the soil upon his back*, his next resource is to attempt establishing the greatest extent of its deterioration through his malpractices: Hence we hear of soils reduced to a state of total exhaustion and inanition,

* Restrictions, even as to the last years, must necessarily imply a corresponding *system* of management on the part of the tenant. They therefore essentially bar improvement, were they to be rigorously insisted on. Might not the tenant, in his lease, be allowed to substitute any other management, under certification, if challenged, of paying damage, unless he could instruct it to be of permanent superiority; the landlord also being under certification of paying all expenses, if the tenant does so instruct, upon being challenged?

inanition, through the purgation of lime, or continued succession of white crops;—of its having been left a perfect *caput mortuum*; the whole substance of it having been sent to market in the shape of wheat, &c. &c. And yet, after all this clamour, I confess I remain a most incredulous sceptic. In the course of all my experience and information, I never yet could have it distinctly ascertained, that any land, by nature fertile, had ever been so depraved by mismanagement, but that, in a very short time, it has been rendered abundantly productive, under the judicious treatment of a skilful farmer.

I am therefore, upon the whole, decidedly convinced, that the unspecifying clause of *obligation to good husbandry*, ought, in all sound construction of law, to be held null and void, as a mere technical pleonasm of law language; and, that any trifling subsequent diminution of production, to be apprehended from the practice of outgoing tenants, is too trivial to justify the interference of either legislative enactment, or juridical construction, in a manner diametrically the reverse of that which general and extensive views of utility have demanded in all other cases of contract;—in a manner, too, cramping all energy in the mind of the tenant,—reducing him to that despicable state of perpetual pupilage, from which he would be exempted in any other profession to which he might betake himself; and which, therefore, must have the strongest tendency to banish from the profession every man who has the spirit of a man, or is possessed of liberal views; and that, too, for the mere purpose of securing a very trifling utility, which, through views of self-interest in those immediately concerned, would soon be secured of course.

In regard to asserted facts, I am of opinion, that he who asserts them is bound to announce himself, that the evidence may be weighed, and that the public may not be deceived. In regard to offered opinions, I am as clearly of opinion, that they ought neither to be exposed to that undue invalidation, nor artificially fortified with that undue authority, which arises from personal association, but be left to rest purely upon the arguments adduced in their support. I therefore subscribe myself, yours, &c.

NOBODY.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Transformation of Lochs into Valleys on the Banks of the Nith.

SIR,——I BEG the favour of a corner in your valuable Magazine for the following communication. Though not strictly agricultural, it is allied—may be interesting to a considerable number of your readers—and will not occupy much room.

Upon a perusal of Professor Jamieson's Mineralogical Description of Dumfries-shire, I find he is of opinion, that several val-

leys, of considerable extent, along the Nith, had formerly been lakes, similar to many that yet remain elsewhere.

Tradition reports, that the holm or lowland at Dalgoner, partly alluvial, on the banks of the Cairn, 10 miles N.W. of Dumfries, was formerly a lake, and the present water-course formed by labour.

The late Mr Copland of Collieston informed me, that Hector Boece, said to be born 1470, but whose works I have not an opportunity of consulting, confirms this; saying that the river Cairn, which now runs south from this point, formerly run east, and emptied itself into the Nith, near to where the bridge at Auldgirth now stands; and certainly the gulley through the rock below Dalgoner bridge, several hundred yards long, and in parts more than fifty feet deep, in which the water now runs, has more the appearance of having been formed by human labour, than any thing else of the kind I ever saw.

If so, the nature of the ground had much favoured the operation; but the labour, notwithstanding, must have been immense; and, though very practicable, and the probable advantage seems inadequate to recompense that labour, yet, in confirmation of this, it may be observed, that, a few miles below this place, the river Cairn changes its name to Cloudin, and that a smaller water, which rises in the parish of Irongray, and falls into the Cairn at that remarkable cataract, Routin Bridge, still bears the name of the Old Water of Cloudin. *

If tradition, &c. report right, this course must have been formed by the water, by art, or both. Be this as it may, it must have been many hundred years ago; yet no part of it has much the appearance of being water-worn, as we see in many places the hardest whinstone is. The rock, through the whole course, is mostly of that loose kind called rotten stone, and, to all appearance, much in the state it would be left by the pick and hammer, if formed fifty years ago.

The course through the rocks may be a hundred feet wide or upwards; in most places fully the size of the channel of the river, either above or below, and the declivity very moderate: yet the water runs with such force and turbulence in time of a flood, and the banks are so romantic, as to make the whole one of the greatest curiosities in this country.

A circumstance in support of all this, is, that about eighty years ago, a flood swept off the whole of the corn-mill at the head of this cataract, and carried one of the millstones to the bottom of the gulley, four hundred and sixty paces distant, and deposited it in a deep pool, there called Hell's Cauldron. J. G.

BRANCH

* See, for this name, Maps of Dumfries-shire and Galloway, and Sir John Sinclair's Statistical History, vol. IV. p. 526. & 532.

BRANCH II.

Review of Agricultural Publications.

A Review of the Reports to the Board of Agriculture from the Northern Department of England, comprising Northumberland, Durham, Cumberland, Westmoreland, Lancashire, Yorkshire, and the mountainous Parts of Derbyshire. By Mr Marshall. London, Longman & Co. pp. 536.

Mr Marshall, who has written more diffusively concerning agriculture than any other man in Britain, Mr Arthur Young excepted, having exhausted, it would seem, his own stock of knowledge of that important art, kindly undertakes, at this time, to act as furbisher to the Board of Agriculture, and to retail, at second hand, what was already printed and published by other people, rather than remain idle or unemployed. While we give all credit to Mr Marshall for entering upon this humble office, we are not quite sure whether some motives, not of the most creditable kind, might not influence him to bring forward the present publication. Perhaps he either wished for an opportunity to abuse the President of the Board of Agriculture, and other gentlemen connected with that establishment, or to open a new branch of the book-making trade, confessedly of great importance to one like Mr Marshall, who, for many years, has been deeply engaged in that line of business. We shall not stop, however, to investigate his motives; but proceed, without loss of time, *to review the reviewer.*

Most of our readers, we presume, have heard of such a man as Mr Marshall; but few of them perhaps know much about his professional character and abilites. We therefore acquaint them, that, in 1774, he farmed about 300 acres of land near Croydon in Surry, *from which*, according to his own account, *he was soon fortunately released*, though he is not so kind as to say in what manner. His first publication, viz. 'Minutes on Agriculture,' &c. issued from the press in 1778; and those who wish to form a correct opinion of his knowledge at that time, may consult these minutes. As a sample of his practice, we select the following minute, and leave the most slovenly of our readers to determine upon its merits. 'Wednesday 30. Brought down from Adscomb, eight sacks of oats in chaff, for the cart-horses. Would it not be ridiculous to winnow them? Surely, to dress oats intended for private use, is muddling through a dirty suffocating job, without any other advantage than having the pleasure of remixing the oats and chaff in the stable.'

After

After Mr Marshall was fortunately released from his connexion in Surry, he undertook the task of surveying the husbandry of England, and published no fewer than twelve octavo volumes, in illustration of what he called 'the established practices of the highest orders of professional men, in the six agricultural departments of England.' In addition to this branch of business, which probably was a very profitable one, Mr Marshall assumed the character of a general agent in the management of estates; directed the improvements of landed proprietors who were pleased to employ him,—though, unhappily, few of these connexions were of long endurance, being generally dissolved in consequence of circumstances unnecessary to be mentioned.

So far we have brought up the history of Mr Marshall; and justice calls upon us to say, that in 1793, when the Board of Agriculture was established, he was fast approaching to the summit of his profession. At that time, the book-trade of Agriculture was almost entirely possessed by him and Mr Young, there being no other opponent in the field than the late Dr James Anderson, who was then attracting the public notice. But Mr Marshall was the most plausible writer of the three,—therefore his books had the greatest sale. Very probably he would have made an estate from books, had not Sir John Sinclair most wickedly brought a shoal of irregular writers upon the stage, and deprived Mr Marshall of the immense pecuniary advantages which he was almost certain of reaping. In fact, Mr Marshall seems to consider these gentlemen as interlopers in the trade, and argues the business as if he enjoyed letters patent, constituting him surveyor-general of British husbandry.

The present publication contains, in the first place, a preliminary advertisement, couched in language uncommonly temperate, wherein the author, with singular modesty, bestows a good deal of praise upon himself, and exhibits his claims on the public at large for the views which he had unfolded of the territorial concerns of the country. In the second place, we are favoured with an introduction to the work, which details the origin and progress of the Board of Agriculture. Mr Marshall here insinuates, that the honour of proposing that institution, solely belonged to him,—because, in his first edition of the rural economy of the midland counties, published in 1790, he intimates the probable advantages which might arise from such an institution. Here Mr Marshall forgets that Hartlib had suggested something of the like nature an hundred years before he was born; and that Lord Kaimes had shown the utility of a public board of agriculture, many years before the appearance of his publication on the Husbandry of the Midland Counties. Passing this lack of memory,

we

we have to notice, that when the plan of Sir John Sinclair's board was under consideration, Mr Marshall seems to have been consulted by the worthy Baronet, and not to have been adverse to render every assistance within his power. But, strange to tell, the moment that a secretary was appointed, he appears to have regarded the Board with a jealous eye; characterizing it as a job gone into by Mr Pitt, with a view to quiet the ambitious cravings of the President, and to reward a supposed change in the political sentiments of the secretary. On more mature consideration, Mr Marshall, however, prudently resolved to restrain his indignation, thinking the plan of the Board might be turned to his own private advantage. Instead of viewing the surveyors appointed by the new Board as rivals, he began to consider them as a band of assistants, which fortune had thrown in his way; therefore, wisely determined to join them, and, if practicable, to reap the fruits of their labours. He assures us, however, with his usual candour, that he did not mean to reap these fruits for himself, but for his country!—which, no doubt, was a very patriotic resolution.

Under these impressions, Mr Marshall seems to have supported the Board with great zeal for several months. He drew up a report of the husbandry of the central Highlands; was elected an honorary member of the Board; attended the private consultations of the President; and, to all appearance, was fast advancing in his favour. These pleasant circumstances were unluckily soon dissipated; for, the President having resolved to reprint the surveys upon an uniform plan, Mr Marshall was pleased to consider this resolution as a declaration of war against him: and a kind of armed neutrality seems to have taken place for several years, which unhappily terminated in an open rupture.

During the year 1795, Mr Marshall attended the Board pretty constantly, and was in habits of attending occasionally till 1797, particularly when the general enclosure bill was agitated; but as the President persisted in his book-making plan, and of course lessened the demand for the books published by Mr Marshall, his indignation seems, about the last mentioned period, to have been strongly roused. But when the President proposed his plan for a rural institute or seminary of rural economy, his wrath was excited to the greatest pitch. Since that time, we believe, no correspondence has taken place betwixt the parties.

Mr Marshall's account of these matters is highly interesting, because it displays the temper of the man, and the strong partialities and prejudices which govern his mind, and influence his actions. We shall therefore select a few paragraphs from the introduction to the volume under consideration, and, without offering remarks, shall leave our readers to determine for themselves.

'In

'In December 1790 (a few months after the publication of that Proposal) the first President of the Board of Agriculture did me the honour of making himself known to me. He was then eagerly employed in collecting materials for a statistical account of Scotland, and in endeavouring to establish a society there, for the improvement of British wool. He was of course too much engaged, at that time, in Scotland, to make any attempt at the Presidency of a Board of Agriculture, in England; anxiously as he might then eye it, as an honour in reserve.

'It was not until the spring of 1793, that the (afterward) first President apprized me of his intention to bring the proposed Board before Parliament. He showed me his plan, and, during my short stay in London, repeatedly consulted me on the subject.

'At the time of my leaving town, there did not appear the smallest probability of the measure being adopted: even its promoter assured me that he had no hope of its being then carried into effect. Nevertheless, I had barely reached my temporary residence in the central Highlands, before the public prints announced the appointment of a Board of Agriculture, together with the names of the President and Secretary!

'How was this mystery to be explained? To me, at five hundred miles distance from the scene of the mysterious transaction, it was impossible even to conjecture the cause of so sudden a change in the sentiments of Ministers, on so *plain* a subject. Upon the spot, however, as I afterwards found, there were only two opinions respecting it, and these two led to the same point; namely, that it turned on what, in the familiar language of politicians, is termed a *job*; and the only doubt that remained appeared to be, whether the measure (weighty as it might be) was adopted to avoid the importunities, and quiet the still more ambitious cravings of the President, or to embrace a *fair* opportunity of rewarding a recent change of political sentiments in the Secretary.

'Thus fled my hope of credit (which I really expected) and all chance of profit (which I had not entertained) from my proposed Board of Agriculture. But as it did not appear, in any direct way, to interfere with my other plans, but might in one way or other assist in promoting them, its appointment gave me not much concern; —until I found, by a note from the President in September following, that he had adopted my plan of provincial surveys; and, with a firmness of nerve which few men are endowed with, enclosed a list of surveyors,—myself among the rest! urging me to take a share in his attempt to supersede a work, in the prosecution of which, the most valuable part of my life had been expended!!

'My indignation having abated, I returned the following answer: —" Mr Marshall's compliments, &c. &c. It gave him great satisfaction to hear of the establishment of a Board of Agriculture; an institution which Mr M. has long been anxious for; as it will give a degree of sanction to rural pursuits, which hitherto they have not had;

had; and may prove useful to the general work which he has now been so long and laboriously executing. It will of course give him great pleasure to aid the laudable exertions of the Board, in any way that will not clash with his own undertaking. But, to render this incomplete, by tearing from it any part of his General Survey of the Rural Affairs of these Kingdoms, would he thinks be altogether improper. If, as he intimated in London, his general knowledge of the practices of the island (Wales excepted) can be rendered beneficial in revising the collections of the raw observers whom the Board must necessarily employ, he shall be happy in lending his assistance. Taymouth, 11. Sept. 1793."

'On more maturely considering this evidently insidious attempt, it occurred to me, that the proposed plan of the Board might become subservient to my own design, by affording me valuable assistance in carrying it into effect. Hence, on further importunity (and a highflying lure thrown out!) I complied with the request to furnish an account of the mountain district in which I then was residing. Several of the proposed surveyors were respectable; and I now began to consider them, not as *rivals*, nor even as *fellow-labourers*, but as a numerous band of *assistants*, which unforeseen circumstances had thus fortunately thrown in my way, to aid me in the more perfect cultivation of my own field! and I am now about to reap the fruits of their labour,—not for myself, but for my country.

'Before I quitted the CENTRAL HIGHLANDS, I made excursions into the more recluse and sequestered parts of them (having previously examined the more fruitful and habitable districts, in going over the widely extended estates of the EARL of BREADALBANE, in that strongly featured and interesting part of the island), in order to be the better enabled to draw up the promised REPORT, which, in February 1794, I had the honour of *presenting* to the Board, of which I was soon afterward chosen HONORARY MEMBER; and, during a short stay in London, attended its meetings, as well as the more private consultations of the President.

'In August following, I was first apprized, by a letter from the President himself, that, during my absence from town, he had declared war against another and more important part of my avowed design. It was not enough to try to overrun, with his *levy en masse*, my PROVINCIAL REGISTERS; but he must attempt, with another *posse comitatus*, to overthrow my GENERAL WORK, which, for twenty years preceding, I had not only been progressively labouring to accomplish, but which I had been undisguisedly, and *unsuspectingly* promulgating; so that it was impossible for the President of the Board of *Agriculture* to be ignorant of my intentions.

'Nevertheless, in that happy unembarrassed manner which exclusively belongs to the first President of the Board of Agriculture, he sent me his chaotic syllabus, requiring to know how many of its chapters I could conveniently undertake!

'I remonstrated with him on the folly of attempting any thing

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in the shape of a general work, while the Board remained destitute of materials, *of its own*, for such an undertaking; many, or most, of the Reports being *extremely deficient;* and, to compile from books, would ill become the Board.

'But no matter. The order was issued:—"Make books—good ones if you can: if not, make books." And, in truth, this order was operated upon, until the rooms of the Board had more the appearance of booksellers warehouses, than the offices of a public Board; which might then have been well entitled, the Board of Bookmaking, rather than of Agriculture.

'During the whole of 1795, for it was little more than one long session of the Board, I was pretty constant in my attendance, not only at the public, but in the more select meetings, offering my advice, and answering inquiries, without reserve; and, I must add, receiving great civility and politeness from the President—for reasons, however, which were too obvious not to be perceived. But I was willing, while I saw any hope of the Board's becoming *permanently useful*, to give it every assistance in my power.

'At length, however, seeing, in the wildness and instability of the plans of the President, and the undisguised opposition that was constantly given to the proceedings of the Board—whether wrong or right—by the very power which gave it birth!—that there was no hope left of its being under such circumstances *advantageous* to the *public*, my attention to it became relaxed, and reverted to its wonted channel, from which it had been unfortunately led astray.

'Nevertheless, I still continued to attend, occasionally, the meetings of the Board:—particularly while the GENERAL INCLOSURE BILL was first agitated, in 1797; this appearing to be by far the most laudable measure which the Board of Agriculture had adopted.

'Still, the President persevered in his bookmaking plan; and, though I had long withdrawn my assistance, sometimes sent me crude productions to be *criticized*:—thus still wiling me on, to assist him in the destruction of my own design; which he now began to *acknowledge* he had adopted; and proposed a sort of compromise,—offering, if I would fix any time for bringing out *my* general work, he would bring *his* out, before or after that time!

'This I smiled at; seeing, in the sort of materials he was collecting, no probability of his *rivalling* me in a general work. Yet the inundation that he was causing, by the quantity of books *about* Agriculture which he was throwing into the market, operated of course in lessening the diffusion and sale of my own works—hard as I had laboured to produce them; and I now had to contend with a hired corps (paid by that public whom I had long been gratuitously working for) *single-handed*.

'For all this, however, I could have granted him forgiveness, had he not afterward interfered with what I have more at heart, even than my general work; I mean a RURAL INSTITUTE, or SEMINARY of RURAL ECONOMY. But the base attempt which he unsuccessfully made

made to rob me of this too! is a crime which it would be a crime in me to forgive.' Introd. p. xxii.—xxvii.

The second section of the Introduction is concerning *the plan and execution of the reports.* The plan, generally speaking, was to survey each county by itself, which Mr Marshall is pleased to consider as '*demonstrably wrong*,' chiefly because it differs from the one which he had previously adopted for his provincial registers. Bad as he considers the plan to be, he slips not the opportunity of complimenting himself, by remarking, that

—'the plan of the original Reports of the Board—if plan they can be said to have—most of them being, literally speaking, "without form and void,"—was what may be conceived from some of the heads, of the provincial surveys which I had then published, being turned in a wheel, and arranged in the order in which they happened to be drawn out. They were evidently mine; but so *deranged* and disfigured, as not to be easily recognised.' Introd. p. xxx.

He next produces the plan adopted when the reports were reprinted, as 'an example of the incapacity or unfitness of the President to take a lead in the rural concerns of a country;' and closes the section with some severe animadversions on the jarring arrangement of the Prospectus. The concluding paragraph deserves to be recorded, chiefly because it shows, that Mr Marshall fully believes that, independent of himself, there is not a person in the island capable of making an arrangement calculated to disclose a plain state of rural matters. It is a little curious, too, that he should cite the authority of his own writings in support of his present statement. He might as well have said, this plan is wrong, because it is not in unison with the one which I devised for attaining the like object.

'From this view of the foregoing chaos of chapters and sections it is evident that, to make use of it, in reviewing the Reports, of which it is given out as the plan, would be altogether vain, or impossible, And seeing, further, "the confusion worse confounded" by the Reporters, who have not unfrequently, and no doubt inadvertently, spoken of different subjects in the same section; and, sometimes properly enough, brought forward topics that are not to be found in the plan delivered to them;—I had no alternative, but that of considering the whole as a series of *miscellaneous remarks*, without plan or order; and to mark, in the margins of the several Reports, the proper subject to which each remark belongs; as I have ever done in digesting my own *miscellaneous minutes.* See MINUTES in the SOUTHERN COUNTIES, NORFOLK, MIDLAND COUNTIES, &c.' Introd. p. xxxvii. xxxviii.

The third section treats of the qualifications of a reporter. These are, a practical knowledge of the several branches of the rural profession, particularly of the management of woodland,

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as well as with the subject of landed property,—the right distribution and management of tenanted lands,—and *the proper government of their occupiers.* We are ready to acknowledge, that a practical knowledge of the several branches of rural profession is a qualification in every reporter absolutely necessary; but we are at a loss to discern how and in what manner the proper government of occupiers is connected in reporting the state of husbandry in any district whatever. Mr Marshall might as well have considered the historian, who could not fight a battle, as incapable of describing it. We suppose he had been looking into his Treatise on Landed Property, and inadvertently abstracted this qualification, without thinking about its tendency. But we need not insist upon these things; because, in an after qualification, Mr Marshall effectually disqualifies every one of the reporters, unless they happened to be residenters in the districts reported upon. With him, two years, or, at the very least, one year's residence, is an indispensable qualification, before any man can '*be allowed to make a public report, or publish his register.*' We are not sure whether Mr Marshall has not, in this way, disqualified himself, as we do not understand that he resided either one or two years in the central Highlands.

Though clear that practical knowledge, in the profession of rural art, is absolutely necessary, before any man can make a suitable report upon the state of husbandry, we are by no means satisfied, that any great length of time is required, even by a stranger, for comprehending and ascertaining the leading practices of any district, if the person employed possesses sufficient discernment to appreciate the merits of the practices investigated and reported. In surveying a county or district, the *minutiæ* of husbandry certainly do not constitute a prominent branch of inquiry. Such subjects rather belong to a didactic work, than to a descriptive report, which simply professes to treat of the present state of husbandry, the obstacles which impede its improvement, and the best means to be used for removing these obstacles. In this point of view, the system of connexion betwixt proprietor and tenant claims a prior consideration; because, if formed upon improper principles, or such principles as exclude the moral excitement to make improvements, the system is imperfectly constituted. Moral excitement seems to be a term utterly unknown to Mr Marshall; therefore, we need not wonder that it is disregarded by him, and many others who reason upon principles similar to those which he professes. With those who consider moral excitement as the best and most effectual mean of accomplishing every kind of improvement, the system of connexion betwixt owners and occupiers will be viewed as of main consideration.

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Such, when treating of the husbandry of a district where leases are seldom granted, and restrictive covenants are numerous, will devote their chief attention to the evils attendant upon the want of the one, and the injury which follows from the effects of the other. To ascertain these matters, does not require much time. The facts may be learned by examining the district; and, when ascertained, may be discussed and reasoned upon, equally well an hundred miles from the district, as within its bounds. Where leases are not granted, restrictions, of course, become necessary. The one is cause, the other is effect. By the want of the one, improvements are impeded, or, rather, they are utterly neglected. By the exercise of the other, the occupant is kept in an uniform course, and subjected to the will of a third party on every occasion. But the matter need not be urged further, because the slightest reference to the husbandry of the island will at once proclaim the utility of leases, and the benefit of discretionary management. Perhaps ploughing, carting, harrowing, and the like ordinary operations, may go on equally well in districts already improved, whether leases are granted or not; but without them, no permanent or substantial improvement will be made, unless enforced by compulsory measures. Perhaps better bargains may be enjoyed by the occupiers without leases, than with them; because, where they are not granted, capital stock is sure to flow into other channels than agriculture, the profession being thereby dishonoured, and rendered less respectable. But a surveyor of liberal views will not devote his attention to the interest of individuals, whether proprietors or occupiers. He will consider the public good as the chief object of his inquiries; and, viewing the territory of the country as its original fund or capital stock, will regard its improvement or increased production as deserving his sole attention; no matter by whom the fruits of that improvement are to be reaped, or whether the increased produce arising from that improvement is to be enjoyed by proprietors or occupiers.

Again, if the laws or polity of the country are hostile to improvement, the evils which flow from them deserve to be elucidated in a public report. If vague, arbitrary and undefined burthens are laid upon occupiers, whereby the means of cultivating the ground are impaired, and enjoyments lessened, they ought to be clearly described, and amendments suggested, so as their abrogation may be accomplished. Many parts of the English legal system are directly hostile to territorial improvement;—witness those which regard the collection of tythe, and the possession of waste and common-field land. Others, again, such as relate to poor-rates and public burthens, may rather be consider-

ed as indirectly hostile to improvement. On all these matters, facts are only wanted, which, being embodied, may be reasoned upon afterwards. Much time is not called for, to collect these facts. The collection, even in the largest district, may be made in a month, equally well as in a longer period.

But we will go further, and maintain, in opposition to Mr Marshall, that the actual practice of any county, so far as repects useful purposes, may be estimated in much shorter time than he seems aware of. The mode of cropping is usually considered as the first feature of practice; and, with a little pains, this may be soon ascertained in the most satisfactory manner. No doubt, should the rotation of every individual be wanted, years must elapse before that information could be gained; while, after all, the public would not be one whit bettered by such diffuse information. But a public Board can never need information of this nature. It is the leading, or chief systems of management, that are called for, without descending minutely to the management of individuals.

If summer fallow is commonly practised, that fact may be soon ascertained. If turnips are cultivated, the reporter, by exploring the district, will easily learn whether the broadcast or drill method is adopted. He will do the same with regard to every other branch of practice; and, in reporting upon them, will extend or limit his observations, according to the state or condition of the district he was appointed to examine.

But Mr Marshall, when sitting in judgment upon the reports made to the Board of Agriculture, first makes a law, and, according to that law, condemns or acquits the reporters. Because the Board presented a different plan to the surveyors than the one followed by Mr Marshall, he is by no means entitled to condemn the surveyors, for no better reason than that they had not imitated his mode of surveying. Mr Marshall's system may be a very good one, for any thing we know; but, were we to bring it before our court and condemn it as inexpedient and unsuitable, merely because it differed from the plan adopted by the Board of Agriculture, he certainly would be warranted to advocate the sentence before another court. Precisely, however, in this way, has he acted to the Board of Agriculture, and the county surveyors. We here speak generally of these matters, and as they are treated of in the third section of his introduction. His objections to individual surveyors shall be noticed afterwards.

Mr Marshall's plan of reviewing the reports is next explained. He first divides the kingdom into imaginary departments, describing what he calls the characteristic features of each, though plainly with little accuracy or precision. As, for instance, what con-

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nexion have the barren heaths of Northumberland, Cumberland, and Westmoreland, to do with the rich pasture vales of Yorkshire? or, what affinity does the Yorkshire system of two crops and a fallow, bear to the alternate husbandry of Northumberland? In fact, there is not a single objection against surveying by counties, but what may be urged with equal, if not with greater force, against provincial surveys; the soil, climate and practices of Britain, being so variable and different, that no system whatever, which has uniformity for its basis, can be correctly executed. We always objected to the Board's plan on this very ground, and have constantly maintained, that if each surveyor had been left to form a plan for himself, the state of husbandry would have been more satisfactorily explained.

We now come to the Review Branch of the book. This branch includes the surveys of what Mr Marshall calls the Northern department of England, namely, of the counties of Northumberland, Durham, Cumberland, Westmoreland, Lancaster and York.

Here it may be proper to describe the mode of reviewing adopted by Mr Marshall, which is certainly novel and extraordinary. By the Board, each report was divided into seventeen chapters and a conclusion; but Mr Marshall, thinking that arrangement defective, because it differed from the one followed in his provincial registers, takes the whole fabric to pieces, and arranges the materials thought by him worthy of notice, under different heads, such as national economy, political economy, and rural economy; and those, again, are frittered down into various subdivisions. An arrangement of this kind is of an arbitrary nature, and dependent entirely upon the whim or caprice of the person who forms it. The one followed, is agreeable to Mr Marshall; and that, on the present occasion, is perfectly sufficient.

Having made this new arrangement, Mr Marshall proceeds to classify his materials in the several heads and divisions under which he is pleased to place them, making observations, as he goes along, neither numerous nor of much importance. The report of Northumberland is first examined. Here, at first view, Mr Marshall appears in high good humour, gladly embracing the surveyors, and welcoming them to the field in which he had so long laboured. This good humour, however, soon forsakes him; and he gets fretted with the surveyors, because they give some directions for hanging gates, according to a method which he says was discovered by him in 1785. He next accuses them of inexperience with regard to the working of oxen; though it is understood that one of these surveyors formerly employed more oxen than any other man in the kingdom. It may be remarked,

that Mr Marshall seems at this day to be enthusiastically fond of working oxen, though, by his own accounts, the employing of these animals in the execution of farm-work, is but a vexatious and disagreeable business. Upon turning up the quarto edition of his Minutes of Agriculture, published by Dodsley in 1778, we found the following paragraph.

'August 9. The men and boys are unanimous in the dislike of oxen. The buying of them was unluckily premature. Their keep has been thus far treble the value of their labour; and they must now lye a dead weight till after harvest. They have been the cause of more impertinence, vexation and bickering, than all the other appendages of the farm.'

After explaining the practice of cultivating turnips in Northumberland, Mr Marshall adds, 'But it falls far short of what might have been expected to have risen in the experience of twenty-four years constant practice among men of intellect and observation.' Now, what are we to understand from this, but that Mr Marshall knows very little of turnip husbandry? This is evident from his recommending the spreading of dung, and sowing the seed upon the surface before ridges or drills are formed, in preference to the correct system adopted in Northumberland.

The Durham report, being executed by a landsurveyor, is favourably treated, though the body of the work consists of no more than *thirty-four pages*. In fact, Mr Grainger the surveyor passes the ordeal without being singed in the slightest manner. The like remark is applicable to the surveyors of Cumberland, Mr Marshall having been in good humour when judgment was pronounced.

Speaking of the Westmoreland report, Mr Marshall sagaciously concludes that the author is a Scotchman; which, no doubt, is a striking proof of intuitive discernment. In this review, we discover an instance of flippancy and impertinence which deserves the severest castigation. The surveyor having, in his conclusion, thought fit to pay some compliments to the President, Mr Marshall, without the slightest foundation, but with a want of urbanity and good manners, (qualities not very conspicuous in his character), is pleased indirectly to substitute the reportee for the reporter; in other words, to suppose that the President had written the paragraph alluded to. From our personal knowledge of the reporter, we venture to affirm, that he would indignantly have disclaimed such an interpolation, had the reportee acted in so mean a way. We consider the passage before us as the silliest and most contemptible of the whole book; in short, as one conceived by malice and discontent, and fostered and brought forward by pragmatical inanity.

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The Lancashire report comes next under examination. Mr Holt, the original surveyor, is described as speaking of pigs like a practical man, as an adept in potato husbandry, and as knowing something of gooseberries and tulips!! But the extent of his knowledge is of no importance, because the reprinted report is attributed (truly or falsely, we cannot say) either to the Board, or to its President. Under these circumstances, we expected that the report would meet with a severe drubbing; but, passing strange! scarcely a single observation is hazarded upon it. Were we to search for a reason why this leniency was exercised, perhaps it might be found in the moderate opinions held by the reporter on leases and covenants, which certainly are not very hostile to the doctrines of Mr Marshall and other executive agents.

But Mr Marshall, like a skilful general, reserves his principal fire till the West York survey comes before him, when he discharges the whole train of his argumentative artillery against that unpopular work. The history of this survey is curious and interesting. It was read with avidity both in its quarto and octavo shape, though combated at the outset by a series of marginal remarkers, who accused the authors of every crime except a want of knowledge in husbandry. After being reprinted, it had the singular good fortune of being attacked in the House of Lords by the late Lord Rosslyn; and, though deserted by the *then* Board of Agriculture, who absolutely published a sheet disclaiming all connexion with the author, or responsibility for his work, it still maintained its ground in the public opinion. Mr Marshall now attempts to give it the *coup de grace*; but, perhaps without success. Be these things as they may, though it is out of our way to examine his observations in a particular manner, we cannot pass over one or two attacks upon principles regarded by us as of the first importance to the interest of agriculture.

In the *first* place, Mr Marshall states, that he finds nothing in the arguments of the reporter, in favour of leases, that can claim particular attention; and gravely adds, 'that the beneficial operation of leases has been so frequently shown, and is, I flatter myself, so well known in England, as not to require any extraordinary strength of argument to support it.' From this passage, superficial readers would be apt to infer, that leases were quite common in England; that the great majority of the people were perfectly satisfied with regard to the utility of that mode of tenure; and that the reporters were only attacking a man of straw, and wasting time which might be more usefully employed. This, assuredly, is the view which will be taken by any person who peruses the strictures of Mr Marshall, and is not acquainted with the system of connexion which generally prevails

in Yorkshire betwixt landlord and tenant. But when such persons are informed that leases are not prevalent, and that, in numberless instances, they are no more than annual agreements, voidable upon six months notice being given, it is highly probable the subject may appear differently from what it is described by Mr Marshall. Instead of considering the reporters to have merited censure or disapprobation, such persons will likely think them entitled to praise, for arguing at large in favour of a mode of tenure which unquestionably has occasioned the greatest advantage to British husbandry, wherever it has been fairly and duly executed.

It deserves notice, that though Mr Marshall coldly supports leases, yet he says very little in their favour. Indeed the leasehold system of the Yorkshire surveyors is so very different from the one supported by Mr Marshall, that it was impossible to expect the support of that agricultural sage when the merits of their system came before him. Mr Marshall many years recommended what he calls triennial leases; in other words, leases which were to endure for six years at least from the commencement, with a condition that, if neither party gave notice to quit before the end of three years, then the term is to be prolonged to nine years; and so on from three years to three years, till notice was duly given. We frankly acknowledge this plan to be a considerable improvement upon the common mode of tenure, in every case where cultivated and improved lands are to be demised, though we regard it as none at all, when waste or unimproved land is under consideration. Mr Marshall might be very much in the right when he recommended his triennial lease to the landed interest of England, who, he says, entertain an antipathy against leases; but, when sitting in judgment upon persons who had discussed the abstract question, namely, the utility of leases, it became him to determine differently. If a six years lease is of benefit to agriculture, (and Mr Marshall must think so, otherwise he would not have recommended it), assuredly one of nineteen or twenty-one years endurance cannot be disadvantageous.

It must here be remarked, that Mr Marshall is a suspicious witness, when any thing in favour of the occupiers of land is under consideration. As already said, he acts as a general agent in the management of estates. Now, power being always agreeable to those who can posssess it, people of Mr Marshall's character are naturally hostile to any measure which has for its object the independence of occupiers. In proportion as the liberty of the tenant is restricted, so much more will the power of the agent be exalted. If the business of the agent is increased, it follows,

follows, of course, that his salary ought to be increased also. The object of an agent is to make his principal believe, that unless estates are constantly watched over, and the conduct of the tenantry strictly looked into, the property would soon be ruined, or at least greatly deteriorated. Whether Mr Marshall is much employed as an agent, we cannot say; but the samples of his abilities left with two noble Lords in Scotland, would rather incline us to think that his business in that line is not considerable. Be this as it may, it cannot be thought that the system recommended by the West York surveyors would meet with the approbation of Mr Marshall. Indeed, was their system acted upon, the business of an agent would be restricted to the setting of land and receiving of rents, instead of being extended to the general superintendance of the concerns of every one resident upon the estate over which the agent superintended.

We are not sure whether the following statement will throw any light on this subject; but as it relates to a conversation held with an *elève* of Mr Marshall, who seemed animated with ideas similar to those which govern his principal, it cannot be considered as extraneous or irrelevant. This gentleman, under the authority and direction of Mr Marshall, was employed to improve the property of a respectable nobleman in the south of Scotland:—*à propos*, he is alluded to, p. 240, octavo edition of Mr Marshall's treatise upon Landed Property;—and, though there characterized as *a young improver*, actually raised a few quarters of rape-seed, at the trifling expense of one thousand pounds Sterling to his noble employer.—But to return.—Having occasion to spend an evening with Mr Marshall's *elève*, the conversation turned upon lime husbandry, upon which our opinions seemed to differ widely. We hinted something about speaking from experience. 'Experience!' exclaimed the gentleman, 'is your experience equal to mine? Have you limed four thousand acres?' We replied, 'Not quite so much;' and added, 'that there was not a man in Britain who had limed that extent of ground.' 'Yes, I have done it.' 'Have you indeed! Pray, where? Certainly you must have possessed a farm of an enormous size?' 'Me possess a farm! I never rented an acre of land in my life; but I superintended the estates of Earl H—— in Cambridgeshire.' 'Oho! so it was the tenants who limed the four thousand acres!' 'Yes it was; and I directed and controuled their operations.'—So much for general agency.

In the *second* place, Mr Marshall is not one whit better pleased with what the West York surveyors say against restrictive covenants, than with their arguments in favour of leases. After detailing what was urged by the reporters concerning the conditions

of a lease at its conclusion, he sarcastically exclaims, 'How, Farmer, no wheat to be sown for the incoming tenant? No turnips for feedage?' &c. &c. Here, he may be replied to in kind. 'What, Mr Agent! do you know no more about business than to talk in this style? If the incoming tenant enters at Whitsunday to the farm, he will cultivate turnip land, and summer-fallow for himself; and, of course, may go on with the operations of the farm, as if no change of tenants had occurred, though probably with less profit than in after seasons.'

In the *third* place, what is urged by the reporters in favour of subsetting, is treated contemptuously by Mr Marshall. To us it appears, that much good would follow, were the occupiers of land invested with that power; while, at the same time, we cannot discover the slightest injury which the proprietor would sustain from its exercise. Mr Marshall, however, is quite in the horrors at the very thought of conferring such a power upon a tenant, foolishly believing that the new tenant would proceed to acts of rascality and ruin. But what acts of rascality could the one tenant commit, which might not, with equal facility, be committed by the other? Certainly none. In fact, Mr Marshall makes a distinction, when in truth there is no difference. Besides, if the original holder of the lease remains bound for the fulfilment of all its conditions, the security for performance is strengthened, not diminished, by the transference which he reprobates.

In the *fourth* place, Mr Marshall objects to the building of cottages adjoining to every homestead, and to the payment of farm-servants in kind, *i. e.* in the necessaries of life,—measures strenuously recommended by the surveyors. Now, if Mr Marshall was not, in some measure, unacquainted with the practices of Yorkshire, he would have known that the great body of plough-servants are unmarried men, who receive bed and board in their masters' houses, and are, by the reporters, considered not to be so steady and faithful as married people. But married servants could not be kept, unless cottages were previously built for their accommodation; hence, the advantages of both measures are warmly insisted upon. Again, Mr Marshall reprobates the scheme of paying wages in kind, characterizing it as a remnant of an antiquated system, given up in every place where rural and political economy is sufficiently understood. He also objects to the plan, because it would allow the ploughman to riot amongst plenty in a year of scarcity, when all other classes are put on short allowance. On these points we differ with him very widely; because it has been found, in every district where payment is made chiefly in the necessaries of life, that farm servants

vants are better fed and better clothed, of more respectable characters, and more faithful to their masters, than where they are paid in money, which is often wasted or mismanaged, and, at all events, entails a certain degree of trouble and expense upon the servant, before he can be furnished with the means of subsistence. With regard to the evil tendency, in scarce times, of such a mode of payment, we have always observed, that the extreme high price influenced farm-servants to sell a part of their wages—say grain, to those who were in want of it; and that the danger lay in the servant selling too much, rather than in retaining a greater quantity for the consumption of himself and family, than was called for. We would as soon deprive our horses of food, as scrimp the servants who managed them. The same effect would necessarily follow privation in either case; —less work, while that work would undoubtedly be worse executed.

Before finishing our remarks on this part of the Review, we cannot help noticing the many indecisive views taken by Mr Marshall of the West-Riding report. In numerous instances, he seems absolutely at a loss whether to bestow praise or censure; and, in others, both are blended in such nice proportions, as to make it difficult to ascertain which preponderates. Perhaps the extracts given will not bear him out, even where the rod is most severely administered. We may hazard, as a general remark, what we believe has already been anticipated, viz. that the West-Riding reporters could not expect support from Mr Marshall; because, if their system of rural management had been adopted in all its branches, there would have been little employment upon an estate for such a man as Mr Marshall.

The North-Riding Report falls next under consideration; but, being written by a gentleman, who is not only a landsurveyor, but also employed as a general agent, meets with a most cordial reception from Mr Marshall. In short, we do not observe the slightest censure bestowed, though much objectionable matter is presented in that report. The East-Riding reporter is treated in the same gentle way, though Mr Marshall, in his concluding paragraph, states it to be probable, that he may not find another report in which good sense and *futility* are so equally and intimately blended. In a word, the reporters, who restrict their inquiries to ploughing, sowing, harrowing and the like, will escape from the hands of Mr Marshall without sustaining the slightest injury; but, mercy upon those who meddle with political economy, or recommend free and open leases! Such will be lashed by Mr Marshall with the feelings of a West Indian black drummer; and as it is an easy matter to find fault, he will hold up their errors with

with scorn and ridicule, whilst the good which they may have communicated will either be coldly noticed, or passed over as undeserving of attention.

We must now take our farewel of Mr Marshall; but, before parting, cannot refrain from congratulating him on the *fair* prospect which he enjoys, of reaping more profit from the county surveys, than all the surveyors put together. In 1793, he viewed the surveyors as a numerous band of assistants, fortunately thrown in his way by unforeseen circumstances, and charitably resolved to reap the fruit of their labours. In these views and expectations, he will not probably be disappointed, unless interdicted at the instance of the Board of Agriculture. Trusting the Board will not be so cruel, let us calculate the number of volumes which Mr Marshall may produce from the labours of his assistants. He has already fixed upon six as the most proper number for England, and, of course, must give two to Wales, because it is geographically divided into two provinces. With a little management, he may describe the Scottish counties in other six; and if he crosses the Channel, he has more good manners than to affront the Irish nation, by describing the husbandry of their country upon a more contracted scale. The aggregate is therefore twenty volumes; and, though the value of these volumes cannot, in this stage, be correctly ascertained, we may safely reckon it as a sufficient remuneration to Mr Marshall for all the slights and injuries he has received, either from the Board of Agriculture, or from any of the gentlemen connected with that meritorious and useful establishment. N.

The Plough-Wright's Assistant; or, a Practical Treatise on various Implements employed in Agriculture. Illustrated by sixteen Engravings. By Andrew Gray, Author of "The Experienced Mill-Wright." Edinburgh, Constable & Co. London, Murray. 1808.

Few countries are so well provided with suitable implements for executing rural labour as Great Britain; and, to this circumstance, we may attribute the increased and increasing perfection of its agriculture. We have ploughs of all the different kinds, which at any time have been invented; whilst harrows, wheel-carriages and other common implements, of various constructions and dimensions, are equally numerous. But it is in the articles which, strictly speaking, may be called agricultural machinery, that the superiority of Britain is most conspicuous. Drills for sowing grain, and other seeds, have been constructed upon scientific principles; and machines for separating grain from the straw, and for cleaning it from the offal with which it is intermixed, have

have been brought to a degree of perfection little expected when these machines were originally invented.

Imperfect labour is a consequence necessarily attendant upon defective implements. In former times, the construction of rural implements was almost entirely left to rude and ignorant artisans, whose operations were guided by no fixed or determinate principle, and with whom, improvement was left out of sight; because any thing of that nature was regarded as superfluous and unnecessary. To those who remember the ploughs generally used in Scotland thirty years ago, or who have viewed the implements used in many parts of England, even at the present day, the justice of the above remark will not be questioned. The principles on which ploughs and other rural implements should be constructed, have of late been ascertained with mathematical precision; and artisans in every district have been enabled to imitate what they had not judgment sufficient to invent. To SMALL, BAILEY, MEIKLE, and many other ingenious men, the public are under great obligations, for bringing rural implements to their present perfect state. In consequence of their exertions, labour is executed in a style infinitely superior to what was formerly practicable. Owing to more perfect labour, a greater produce is obtained from the earth. This has increased the rent-roll of proprietors, without lessening the welfare or prosperity of occupiers. In a word, the interest of the state has been in like manner promoted by the increased supply of the necessaries of life thereby furnished; without which, neither manufactures nor commerce could have been so extensively undertaken.

The author of the treatise now before us, in a sensible preface, states, that, notwithstanding the art of tilling and pulverizing the ground is of remote antiquity, yet that far less was known of the implements employed for that purpose by the ancients, than of the various warlike engines invented to batter down castles and fortified cities. Hence he is naturally led to conclude, that those among the antients most conversant in mechanics, had either not turned their attention to the construction of the various implements necessary in cultivating the ground, or else imagined, that however imperfect these implements might be, they would answer very well for so rude a purpose as breaking up the soil, or turning over a furrow. With the last part of the remark, we entirely coincide. Indeed, it is only of late that the practice of husbandry could, with the least truth, be called an art; those by whom it was carried on proceeding in an uniform path, without making either inquiry or observation.

Mr Gray afterwards explains the different implements used by the husbandman; and furnishes us with plates of each, pretty well

well executed. Speaking of the old Scots plough, we think he says more in its favour than that unwieldy and cumbersome implement is entitled to. Owing to the way in which the sock or share of that plough operates, a great deal of the ground is left to be turned over by the wrest; and this part acting as a forcer, necessarily requires a strong impelling power to be used, before the ground can be completely torn up and turned over. We freely admit, that the Scots plough will work in certain situations where the improved plough would have little effect. But this only can happen when the ground is full of stones. For waste land, free of stones, the improved plough, of larger dimensions and stronger parts than that commonly used, answers much better than the Scots plough. By the breadth of its share, and shape of its mouldboard, the furrow-slice is completely cut from the firm soil, both on the land side and at the bottom; whilst it is laid over or shouldered up in a more regular manner than practicable by the Scots plough.

We are not sure that Mr Gray speaks correctly about the improved ploughs, when he describes them under the character of the plough with the convex twisted mouldboard, the chain-plough, &c. In fact, the chain is not a necessary appendage to any plough, and is solely meant to strengthen the beam, and preserve it from injury. A chain may be put to any plough, without rendering necessary the slightest alteration upon its operating parts. The head and mouldboard are the operating parts in every plough; and, if a chain is applied, no more is required, than to change the position of the beam, in order that the line or direction of the draught may be duly maintained. Mr Gray does not seem to think very highly of the double-furrow plough; which, we believe, is the general idea of cultivators.

Harrows are next described. Then follows an account of a machine, whereby land may be harrowed in a wet season—an implement more than once noticed in this Magazine. Rollers, drills, wheel-carriages, &c. are also noticed; and the whole concludes with a concise and distinct description of the plan, elevation and section of a thrashing machine, executed in a very satisfactory manner.

Upon the whole, Mr Gray has given a neat, and, in general, a pretty accurate account of the several implements used in this country for executing rural labour. If he has not suggested much improvement upon rural implements, he has at least, with some slight exceptions, described the implements commonly used, with considerable minuteness and fidelity. Thinking every encouragement due to mechanists who endeavour to instruct the public mind on a subject of so much importance as the one he has

has undertaken, we are in duty bound to recommend Mr Gray to the notice of our readers. He seems to be a man of modesty, who does not claim praise where it is not merited; and, understanding mechanical principles well, perhaps more may be learned from his treatise, than from others couched in loftier terms, and conveying greater expectations. N.

General View of the Coal Trade of Scotland, chiefly that of the River Forth and Mid-Lothian, as connected with the supplying of Edinburgh and the North of Scotland with Fuel. To which is added, an Inquiry into the condition of those Women who carry Coals under ground in Scotland, known by the name of Coal-bearers. By Robert Bald, civil engineer, Alloa. Edinburgh, Oliphant & Brown. 1808.

If there is one circumstance more conducive than another, to the welfare and prosperity of the inhabitants of Britain, or which renders their situation superior to that of their continental neighbours, it may be found in the full supply of fuel within its bounds; without which, the people could neither live in a comfortable state, nor could manufactures be carried on with that degree of success which hitherto has accompanied them. On the Continent, wood is chiefly used for fuel, to the great trouble and inconvenience of the inhabitants: but this article cannot be furnished to any extent in Britain; the small quantity of wood land, and the excessive population of the country, rendering a supply of it impracticable. Even peats, long the chief fuel in many districts, are yearly falling more and more into disuse in proportion as the value of summer labour in the field becomes better understood. In fact, the processes of digging and manufacturing peats are almost as expensive as the purchasing of coals; whilst the benefits of the one are much inferior to those obtained from the other. Hence, the right management of coal fields must be viewed as a subject of great importance, and as one wherein every individual, from the highest to the lowest, is deeply interested.

Mr Bald, author of the treatise on our table, appears to be well acquainted with the history of Scots coaleries, and the way in which the trade has been conducted, from the earliest period. From his information, we learn that coals were first worked in Scotland about the end of the thirteenth century, in lands belonging to the abbacy of Dunfermline; and that the coaleries were at that time drained of their water by mines or levels brought up from low grounds. We also learn, that recourse was had

had to water-machinery in 1600; and that, a short time afterwards, the coaleries at Culross were worked more extensively than any other in Scotland. The accounts given of the water-machines in use at the conclusion of the seventeenth century, and of the endeavours of that able, but unfortunate nobleman, John, Earl of Mar, to improve the coal-trade of Scotland, are highly interesting.

From what is stated respecting the price of coals at different periods, it appears, that, in 1715, great coal was put free on board in the river Forth, at 4s. 8d. per ton. The erection of fire engines seems to have produced a new era in the mining interests of Britain, putting every field of coal, even those supposed to be lost, within the command of its owner. Coaleries were therefore opened in every district; and their effects were so beneficial, that, in 1785, when the value of labour was greatly advanced, coals were shipped in the Forth at 4s. 10d. per ton, being only 2d. per ton higher than the price of 1715. Mr Wauchope of Edmonstone, in Mid-Lothian, was among the first in Scotland who erected these engines, having obtained license from a London Company, who were patentees of the invention, to make the erection. A curious but interesting account of the expense of erecting that engine is given, amounting, in all, to 1007*l.* 11s. 4d., exclusive of the expense of the engine-house. We are informed, that Mr Wauchope paid 240*l.* to the patentees for the permission given him.

When speaking of the difference in the price of coals in Glasgow and Edinburgh, Mr Bald remarks, that the coal trade of Glasgow is carried on upon much better principles than the trade of Edinburgh; in which remark we entirely agree with him. This matter being of much importance to our friends in the metropolis, we shall, for their benefit, make an extract from the work, sufficient to explain Mr Bald's sentiments.

'The coaleries which chiefly supply Edinburgh with coals by land-carriage, are situated, at an average, about five and a half miles distant; the distance to the nearest being about four miles, to the furthest about seven miles. No city in the kingdom is more fortunately situated, not only in respect of distance, but also in respect of the extent of coal-field, the thickness and number of seams.

'Those which supply Glasgow, are situated about four miles distant; the nearest being about two miles, the furthest about five miles from the city. We must, therefore, in point of distance, allow a proportion of price corresponding thereto.

'The price of coals upon the coalhills round Edinburgh, is 11s. 8d. per ton; at Glasgow, it is, on an average, 8s. 4d. From this we must calculate: for whatever difference there may be in the working of the coal, it does not interfere with this statement.

'The

'The common hire which an Edinburgh carter makes, upon an average, per day, with one horse, is about 5s. A Glasgow carter will not work unless he can be assured of making from 9s. to 12s.

'The difference is great beyond all proportion, and more than compensates for the difference of distance to the coaleries. There must, therefore, either be some great fault here, or the Edinburgh carter has other means of subsisting than the mere hire.

'The business of carting the coals to Edinburgh appears to be done in the very worst style. The carts are badly constructed, and frequently not five inches deep in the sides, which are made of four rough pieces of wood fixed with pins at each corner, where it would not be easy to place a heavy load. The condition of the horses accords somewhat with the construction of the cart, and many of them cost from 3*l.* to 4*l.* only. The general weight brought to the city is 12 cwt.; and if 15 cwt. is at times brought, it is the highest. To distilleries and public works, where economy is attended to, the carters very willingly take a ton weight, or even 24 cwt.; which at least serves to show what may be done.

'At Glasgow, we see a different order of things. The cart is of excellent construction. The horses are strong, well fed, and cost from 30*l.* to 50*l.* each. The common weight carried is 24 cwt., and that in constant practice. Is it not remarkable to observe so great a difference in doing the same kind of work in the two greatest cities of Scotland, considering how short a distance there is between them?

'One cause of the great difference of the carter's hire, arises from the superior mode in which the coal sales are conducted at Glasgow. There each coalery has an agent in the city, who receives orders for coals; these orders are sent out each day to the respective coaleries, by which means, the manager appoints each carter his day's work before he leaves the coalery in the morning. By this plan, the delivery of the coals is quite regular; no time is lost; all imposition is avoided, as the carter has nothing to do with the money for the coals, but is answerable for the weight delivered. This last is of much importance; for, without this, it is hard to say what the price of the coals is. The City of Edinburgh has had much to do attempting to correct the great abuses in this alone; and this point has not yet been effectually adjusted.

'The system pursued by the Edinburgh carters is very different indeed, which not only operates against the inhabitants, but against themselves.

'When the coals are in great request, and no stock of them upon the hills, they go in crowds to the different coaleries, and wait very long ere they are served; frequently lose a whole day. Each cart of coals is weighed by 4 cwt. at a time upon a common beam; this is the practice of the best coaleries, by which much time is lost. The introduction of weighing-machines, as practised at Glasgow, would be a great improvement. When the demand becomes less, the coals

are

are procured sooner at the hills; but as they frequently have no orders for coals in the city, it is no uncommon thing for them to lose a day standing in the streets before they get a merchant; and from this view of the matter, it is wonderful how they contrive to keep themselves and horses alive, even with all their industry and skill.' p. 29—33.

Mr Bald states another cause which enhances the price of coal in Edinburgh, namely, a strong and deep-rooted prejudice which the inhabitants entertain for great coal, instead of purchasing small coal alongst with it, as is the custom in Glasgow and other parts. This predilection for large blocks or pieces of coal undoubtedly increases the price, whilst it gives additional trouble to the purchasers afterward; because it is impossible to burn such masses of coal before they are separated and broke into smaller pieces. The West-country custom is much more frugal, consequently more beneficial. The round coals are first laid aside, and the dross is separated from the small cubic pieces, by using a riddle of an inch mesh. The coals which keep above the riddle are then thrown into the cart, and the round or large pieces are built above them; while the dross, which is separated, is reserved for the use of steam-engines, and sold at 20d. per ton on the hills.

We are extremely sorry that our limits prevent us from noticing this useful and valuable treatise in a more copious manner; but cannot lay it aside, without thanking Mr Bald for the judicious and instructing information which he has at this time communicated. We are at all times happy to hear professional men, especially if they are masters of the subject undertaken to be discussed. This happens to be the case at present; therefore, Mr Bald's view of the coal trade is warmly recommended to the notice of our readers. N.

POSTSCRIPT TO BRANCH FIRST.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Sir,——With respect to the mildew or rust upon wheat-straw, though it has always been most prevalent in rainy seasons, yet it does not appear that a moist state of the atmosphere is indispensably necessary for the production of that malady, as the crops in the counties of Northumberland and Durham were infected, even in the dry season of 1805, as may be seen by inspecting the Northumberland Report in the November Magazine of that year.

I am happy to see, by the 3d section of the President's address to the Board of Agriculture, inserted in your last Number, that my theory of the curl in potatoes (vol. III. p. 345.), has stood the test of actual experiment, and appears to have been correct, notwithstanding the *weighty* arguments adduced against it, by your correspondent A. S. Yours, &c. P. H.

BRANCH

BRANCH III.

Agricultural Intelligence.

The failure of the wheat crop, noticed in our last, proves greater than at first imagined, and appears to have taken place in almost every district, though in different degrees, according to the nature of soil, the stage of growth at which plants had arrived when adverse weather set in, and the situation of fields occupied with that grain. Generally speaking, sea air seems to have had a beneficial influence in counteracting the prevailing malady, serving, perhaps, to lessen the excessive heat which prevailed in the latter part of June and the whole of July, and afterwards preventing that exhalement of putrid effluvia, which seemed in many places to issue from the surface, after a full supply of moisture was obtained. Upon these matters it is difficult to reason with any certainty; because, though the effects are apparent upon the slightest investigation, the causes are more dark and difficult to be understood. One thing, however, is certain, viz. that the wheats on the coast-side lands are of superior quality to those cultivated only a few miles from the sea-shore; therefore it may be inferred, that the superiority of quality was occasioned by local circumstances. We have uniformly maintained, that atmospherical influence was the true source of every malady to which wheat is liable, that of smut excepted; and what occurred this season has considerably strengthened our original opinion. Had excessive heat and violent drought continued till harvest arrived, it is very likely that many wheat fields upon dry soils would have been greatly injured, by a want of due nourishment. This atrophy, however, could only have happened to a certain extent, and its consequences, very likely, would not have been greatly prejudicial. An excess of moisture, on the contrary, is always felt as a general evil, especially if it falls upon the plant when forming the grain, or even when the grain is in an embryo state. In every season, when rains continue for any considerable length of time while maturation is going forward, the cups of the ear, especially those on the top of the plant, are always unfilled; whilst the grain deposited in the other cups, is lean, shrivelled and ill-coloured. In the first instance, a kind of abortion takes place; and, in the latter, the young grain being stinted of nourishment, does not fill or increase to the size of healthy grain; therefore, in point of quality, always turns out defective. Had we been in the West Indies at the time, and learned that the weather from 24th July to 12th August was almost incessantly wet, we would at once have predicted that wheat would be a failing crop; and on these predictions would have confidently relied, because similar ones were always verified in the course of a pretty lengthened experience.

The active mind of Sir John Sinclair, Baronet, was stimulated,

by the communications which reached him from many districts, to make various and extensive inquiries concerning the failure of the wheat crop. He circulated queries on the subject amongst his numerous correspondents; answers to which, from one county, will be seen in the leading article of this Number. The worthy Baronet has also a pamphlet at press, entitled, 'Result of an Inquiry into the Nature and Causes of Mildew,' &c. wherein a vast body of information is detailed, not only with respect to the failure proceeding from the particular diseases of this season, but also concerning those which have been experienced in former ones. He has also printed and circulated a small pamphlet on the culture of spring wheat; and enforces the use of that variety, in certain situations and circumstances, with great energy. The public have long been under numerous obligations to Sir John Sinclair; but the result of the investigations with which he has at this time favoured them, must be regarded as highly conducive to the interest of British agriculture, and that in a branch confessedly of the first importance.

The harvesting of the crop was a teazing affair in many districts; and much grain, chiefly barley and oats, was lost by sprouting and shedding, in consequence of the wetness which prevailed for several weeks. From all the accounts furnished us it appears, that both barley and oats may be regarded something like average crops, as to quantity; but that the former is coarse, does not malt well, and contains less saccharine substance than usual; whilst the latter, in general cases, yield about one twelfth less meal than was procured last year. Beans and peas are generally short crops in every district. Turnips, in many parts, are defective; but potatoes are abundant in every quarter, and of fine quality:—circumstances of incalculable benefit to the nation at large, especially in a year when a scarcity of bread corn may be dreaded.

Markets for grain have varied considerably since last quarter, as was then predicted. Wheat has advanced a good deal higher in price; but the other grains have felt an equal diminishment. In the present state of public matters, it is impracticable to speak with any certainty concerning the rate of prices afterwards. One thing, however, is certain, that wheats must get up in value, if an importation from America is not permitted; and, very likely, oats, owing to exportation to Spain, will be greatly higher than some time ago expected. At this time of the year, markets are generally full of grain, wholesale merchants not having commenced their purchases.

The prices of lean stock are somewhat higher this season than last, which will be a great relief to the breeders, whose situation was rather uncomfortable. Fat cattle and sheep are also selling at prices which will remunerate the feeder. The season, upon the whole, has not been a bad one for grass farmers; stock having been originally purchased upon decent terms, whilst a good supply of feed has in general been obtained from the pastures.

An increased breadth of wheat land has this year been sown in almost every district. The weather was favourable for that important operation, and admitted the processes of ploughing and harrow-

ing to be perfectly executed. Taking a broad view of the state of farm labour, it may be reported as in a much more favourable state than it was last year at this date.

It may here be noticed, that inquiries have lately been made respecting the right of individuals to hunt upon arable land contrary to the will of occupiers; and that complaints have reached us against certain persons who presumed to hunt in what is called an unsportsmanlike manner. Upon such a subject, recourse cannot be had to statute law, because we apprehend that statute law is silent, in so far as the occupiers of land are concerned. But if common law is resorted to, the first principle of which is, that no man has a right to injure the property of another, the subject may easily be elucidated. At common law, the sufferer may bring an action of damages against the aggressor or aggressors, and most undoubtedly would receive ample satisfaction. But whether law would protect him, were forcible resistance made to the inroads of depredators, we are not altogether certain; though we have heard lawyers of the first rank maintain, that property in the field was more sacred even than that which was deposited within the four walls of a house; and that all kinds of weapons might be used in protection of the one, which could legally be used in protection of the other. Without pretending, however, to argue the question further in this shape, it may be considered in another light, and upon principles which no *real sportsman* will reject. There is an *etiquette* of the field, as well as of the drawing-room, the breaking of which is disgraceful in either case; and by this etiquette our opinion at this time shall be guided. A real sportsman will not hunt with hounds in an enclosed country, if an open one is within his reach; though perhaps he may follow the chase through enclosures, should the object in pursuit take that direction. A real sportsman will not wantonly injure the property of any person; therefore, when in pursuit of the chase, he will not go over fences when a gate is in sight; nor will he, upon any account, shape his course through wheat fields or grass fields, when such a course can possibly be avoided. In short, a real sportsman will seldom do any hurt to occupiers, through whose lands he passes; much less will he answer them with insolence, when complaints are offered against an aggression; and should he, in the heat of the chase, commit a trespass, he will at once offer compensation. Those who act differently are not real sportsmen: Such must be considered as breaking through the etiquette established in favour of those who partake of the sports of the field, and as having forfeited all right to the privileges tacitly enjoyed by those who act in a sportsmanlike manner. Bringing these rules to bear upon particular cases, the merits of each may be easily ascertained. The law of the field does not justify going through standing corn or clover fields, either on foot or on horseback, in quest of game; nor will it justify the searching of a turnip field, or riding over grass land, whether old or young, with greyhounds or pointers, in quest of hares or partridges, especially in the early part of the season, when stock remain on the pastures. None of these trespasses ought to be

suffered, because every one of them is mischievous and injurious to private property. In fact, they are all contrary to the etiquette of the field; therefore, the person who coolly and calmly commits them, has not the slightest claim to the character of *a real sportsman*, or to the enjoyment of the privileges granted by courtesy in favour of those who hunt in *a sportsmanlike manner*.

SCOTLAND.

Letter from a Gentleman who lately visited Orkney and Zetland, dated 4th November.

'The first objects that presented themselves to my view, on coming on the deck of the cutter that brought me to Kirkwall bay, on the 1st of June, about half an hour past five A. M. were a herd of about fifteen or sixteen cattle quietly grazing on a field of oats, accompanied by a flock of about seventy geese, young and old. There is a good deal of useful land in the vicinity of the town of Kirkwall; and, in many parts of Orkney, the soil is of most excellent quality; but, from the rotation being *everlastingly* bigg with manure, followed by oats, with a small piece of potatoes, the crops cannot be very productive. Turnip is not cultivated by ten individuals in Orkney, and by still fewer in Zetland; nor is clover and rye-grass much cultivated; yet these crops grow luxuriantly when put into the ground under fair circumstances. But, really, when it is considered that there are no leases granted, or few at least, except under the fetters of burning tangle for making kelp, or catching ling, which occupy the whole summer, and that there is no winter herding in either country,—cattle, horses, pigs, sheep and geese, travelling over the whole vicinity from the middle of October to the middle of May,—the culture of these crops becomes morally impossible. For, as long as the system of long-haltering continues, little, if any, benefit can be derived from turnip or artificial grasses, in any country. The cattle and horses are in the greatest misery towards spring; the numbers kept being far too great for the quantity of food that is or can be provided for them in winter, under the present circumstances. The consequence is, that many die annually in spring; and those that survive, have hardly time to recover from their poverty, before winter again sets in.

'Kelp is the great object in Orkney, and fish in Zetland. Every thing is sacrificed to the manufacture of kelp, and catching of ling. In Zetland, the lands are chiefly let to tacksmen, who relet them to what are called tenants, literally fishermen. Those tenants occupy from three or four acres, down to little more than one acre of arable, with more or less pasturage, commonly of little value from being overstocked,—though this fault is more common in Orkney than Zetland. In Orkney, the arable may extend to seven acres to each tenant. The tenants are bound, except in a few cases, to burn kelp, or to fish for the proprietor, or for the tacksman, if the estate is let to one at a fixed price, commonly paid in meal in Orkney, and in money in Shetland, at a certain value for the differ-

ent sorts of fish in a green state;—on some estates by the tale, but chiefly by weight. The tacksmen in Zetland resemble the middlemen in Ireland. They produce the same evil effects on husbandry. The systems are radically wrong in both countries, so far as farming is concerned. Indeed, there are few farmers, properly so called, in these countries. During the whole summer, when they should be employed in rearing green crops by preparing the soil for a crop of grain, attending to their live-stock, &c. they are burning sea-weed, or catching ling.

'The proprietors in both countries are a species of feuers. The feu-duties are payable in kind; in grain, chiefly, in Orkney—delivered by weight, attempted to be ascertained by machines called bismars and pundlars, one, if not both of which, are constructed on false or vague principles. In seasons when the crop is bad, this mode of payment becomes very heavy, or indeed ruinous; because it requires the largest quantity to afford the weight of grain payable by the feuer, when the quantity grown on the lands he feus is the smallest.

'Sir John Sinclair has a considerable farm in his own hand, near Thurso. The land is generally good, and some of his crops have been excellent; but I understand his greatest improvements are at Langwell, near Berrydale, where I shall be to-morrow.

'There is a Mr Traill sheriff of this county, who is carrying on improvements to much purpose: he is one of the ablest men I ever conversed with. The crops are not reckoned extraordinary in Zetland, Orkney or Caithness, this season, except potatoes, which are certainly very productive.'

ABSTRACT ACCOUNT *of* WHEAT *sold in* HADDINGTON MARKET, *for ready Money, from 6th November* 1807, *to 28th October* 1808; *communicated by* Mr TODRICK, *Clerk of the Market.*

Date.	*Quantity.*	*Value.*			*Weekly Average.*			*Monthly Average.*		
1807.	BOLLS.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Nov. 6.	500	793	6	6	1	11	$8\frac{1}{12}$			
13.	416	678	1	3	1	12	$7\frac{5}{12}$			
20.	675	1088	17	0	1	12	$9\frac{1}{12}$			
27.	667	1100	17	3	1	13	$0\frac{1}{12}$			
	2258	3661	2	0		—		1	12	$5\frac{1}{12}$
Dec. 4.	922	1469	2	6	1	11	$10\frac{6}{12}$			
11.	1170	1916	1	6	1	12	9			
18.	812	1370	18	3	1	13	$9\frac{3}{12}$			
25.	980	1606	8	0	1	12	$9\frac{4}{12}$			
	3884	6362	10	3		—		1	12	$9\frac{1}{12}$
1808.										
Jan. 1.	713	1144	3	3	1	12	$1\frac{1}{12}$			
8.	1007	1569	12	6	1	11	$2\frac{1}{12}$			

Date. 1808.	*Quantity.* BOLLS.	*Value.* £.	s.	d.	*Weekly Average.* £.	s.	d.	*Monthly Average.* £.	s.	d.
Jan. 15.	695	1114	6	0	1	12	$0\frac{9}{13}$			
22.	866	1424	5	0	1	12	$10\frac{5}{13}$			
29.	793	1308	3	3	1	12	$11\frac{10}{13}$			
	4074	6560	10	0		—		1	12	$2\frac{1}{13}$
Feb. 5.	746	1194	18	0	1	12	$0\frac{1}{13}$			
12	725	1162	9	0	1	12	$0\frac{9}{13}$			
19.	545	891	8	0	1	12	$8\frac{6}{13}$			
26.	783	1258	11	6	1	12	$1\frac{9}{13}$			
	2799	4507	6	6		—		1	12	$3\frac{4}{13}$
Mar. 4.	330	548	7	3	1	13	$2\frac{1}{13}$			
11.	299	508	15	0	1	14	$0\frac{4}{13}$			
18.	359	610	6	0	1	14	0			
25.	392	668	18	0	1	14	$1\frac{6}{13}$			
	1380	2336	6	3		—		1	13	$10\frac{1}{13}$
Apr. 1.	410	704	10	6	1	14	$4\frac{4}{13}$			
8.	617	1078	7	0	1	14	$11\frac{1}{13}$			
15.	586	1017	8	0	1	14	$8\frac{8}{13}$			
22.	512	903	12	3	1	15	$3\frac{6}{13}$			
29.	832	1483	12	0	1	15	$7\frac{11}{13}$			
	2957	5187	9	9		—		1	15	1
May 6.	647	1247	1	0	1	18	$6\frac{7}{11}$			
13.	722	1349	16	6	1	17	$4\frac{3}{13}$			
20.	640	1246	14	0	1	18	$11\frac{6}{13}$			
27.	414	847	15	6	2	0	$11\frac{5}{13}$			
	2423	4691	7	0		—		1	19	$8\frac{8}{13}$
June 3.	550	1206	4	0	2	3	$10\frac{4}{13}$			
10.	512	1123	19	6	2	3	$10\frac{10}{13}$			
17.	474	1013	18	0	2	2	$9\frac{4}{13}$			
24.	554	1190	6	6	2	2	$11\frac{6}{13}$			
	2090	4534	8	0		—		2	3	$4\frac{8}{13}$
July 1.	502	1054	3	9	2	1	$11\frac{11}{13}$			
8.	641	1341	3	6	2	1	$9\frac{6}{13}$			
15.	630	1329	4	3	2	2	$2\frac{4}{13}$			
22.	714	1458	19	6	2	0	$10\frac{4}{13}$			
29.	634	1288	2	0	2	0	$7\frac{7}{13}$			
	3121	6471	13	0		—		2	1	$5\frac{7}{13}$

Date. 1808.	*Quantity.* BOLLS.	*Value.* £. s. d.	*Weekly Average.* £. s. d.	*Monthly Average.* £. s. d.
Aug. 5.	694	1401 17 6	2 0 $4\frac{9}{11}$	
12.	520	1088 12 6	2 1 $10\frac{5}{12}$	
19.	524	1201 18 0	2 5 $10\frac{5}{12}$	
26.	330	776 10 0	2 7 $0\frac{9}{11}$	
	2068	4468 18 0	—	2 3 $2\frac{7}{11}$
Sept. 2.	441	1016 18 9	2 6 $1\frac{5}{11}$	
9.	509	1165 6 0	2 5 $9\frac{5}{11}$	
16.	451	1075 3 0	2 7 $8\frac{3}{11}$	
23.	495	1175 8 0	2 7 $5\frac{10}{11}$	
30.	580	1334 8 6	2 6 $0\frac{2}{11}$	
	2476	5767 4 3	—	2 6 7
Oct. 7.	611	1416 7 6	2 6 $4\frac{4}{11}$	
14.	361	857 17 6	2 7 $6\frac{1}{11}$	
21.	772	1849 3 0	2 7 $10\frac{10}{11}$	
28.	829	2033 4 6	2 9 $0\frac{7}{11}$	
	2573	6156 12 6	—	2 7 $10\frac{3}{12}$

ABSTRACT.

DATES.	*Monthly Quantity.* BOLLS.	*Monthly Value.* L. s. d.	*Monthly Average.* L. s. d.	*Annual Average.* L. s d.
1807.				
November	2258	3661 2 0	1 12 $5\frac{1}{11}$	
December	3884	6362 10 3	1 12 $9\frac{1}{11}$	
1808.				
January	4074	6569 10 0	1 12 $2\frac{5}{12}$	
February	2799	4507 6 6	1 12 $3\frac{4}{11}$	
March	1380	2336 6 3	1 13 $10\frac{3}{12}$	
April	2957	5187 9 9	1 15 1	
May	2423	4691 7 0	1 19 $8\frac{8}{11}$	
June	2090	4534 8 0	2 3 $4\frac{8}{11}$	
July	3121	6471 13 0	2 1 $5\frac{7}{11}$	
August	2068	4468 18 0	2 3 $2\frac{7}{11}$	
September	2476	5767 4 3	2 6 7	
October	2573	6156 12 6	2 7 $10\frac{3}{12}$	
	32103	60705 7 6	—	1 17 $9\frac{9}{12}$

Banffshire Quarterly Report.

The flattering hopes entertained at the date of last report, were but partially realized, owing to the continuance of rain and fogs for some weeks, whereby the grain crops were prevented from filling and ripening in a perfect manner. Cutting with the scythe has been

practised in this district for two years past; and the advantages of the practice are now fully ascertained. The stack-yards, however, are smaller than usual; and hay is a scarce article, whilst little of it is of good quality.

Harvest was tedious; but the crop was at last secured in the stack-yard, without receiving any material damage, except what was sustained from so much of it being opened out. Turnips, in general, are a full crop, although some of the earliest fields were much injured by caterpillars, which lately have visited the district. Winter keep is by no means plentiful; but a great relief has been obtained by the cattle-dealer, from sales being brisk for some time past. Potatoes are an abundant crop.——14*th November.*

Ross-shire Quarterly Report.

RARELY does there happen a harvest when the crop is so much exposed to hazard, as was the case with the preceding one. The two first weeks of September having been constantly wet and foggy, without a breath of air, threatened much loss by sprouting,—a good deal of corn being then in the sheaf. Gaiting was resorted to extensively, which, while it allowed shearing to go forward, occasioned loss both of time and corn, when it became fit for binding. The weather having been very warm during this period of wetness, rendered the uncut corn dead ripe; and a complete change then taking place, the risk of shaking was very great. It being the general practice here to engage a set number of shearers for the season, puts it out of the power of any one to procure an additional number when circumstances require it. Providentially the crop was secured with little loss, and in good order, and was mostly in the stack by the first week of October. The foregoing report of the harvest particularly applies to Easter Ross. In Wester Ross, circumstances were not so bad. The foul weather came mostly from the east, and was not injurious in that quarter; and the same reason regarding the weather in the end of July, caused an uncommon superiority in the quality of grain, and abundance of the crop in the West, compared to the East. On thrashing, a general deficiency is complained of, particularly of the wheat crop, which probably is not exaggerated, by stating it at fully one fourth below what was once expected. Oats do not yield their usual produce of meal. Potatoes are everywhere an abundant crop, and of excellent quality.

The price of cattle was at the lowest ebb with us in August last. They advanced a little in value after the Falkirk September tryst; and the October tryst likewise being a good market, caused a great demand at Beauly market, which happened on the 19th and 20th ultimo. The number of cattle, shown there, was very great; and, excepting what were very inferior, all sold at an advance of about 20 per cent. from the prices in August.

Towards the close of harvest, the weather became very cold and boisterous, attended with heavy showers of hail and rain; which increased about the middle of October, when the highest mountains were covered with snow, and the cold was severe. The

last three weeks were on the opposite extreme—mild, dry, and favourable as could be wished. The usual breadth of wheat has been got sown in excellent order, and ploughing is well forward. Turnips are a fair crop; but it is suspected several fields would have produced a greater weight, had it not been for the ravages of a caterpillar resembling the kail-worm, which appeared on the leaves in September, and *holed* them much, which it was supposed stinted their growth.

Several arable farms have been let, within the last twelve months, to South-country farmers, on nineteen years leases. From 30s. to 40s. per acre have been promised for the best lands. Lord Seaforth has, however, lately obtained so high as three guineas per acre for lands of his from Atholl men; and fully as much proportionally is offered for part of his inferior lands, thereby acceding to the justness of the ideas of these strangers. In general, we are disposed to acknowledge the introduction of improvements from the South; and it will be well for the country if this recent example can be followed with advantage.

The county is under many obligations to Donald Macleod Esq. of Geanies, and Sir George Stewart Mackenzie of Coul, Baronet, for the introduction of the pure Merino breed of sheep from the King's flock, which are reported to be thriving under the care of these gentlemen; and we have further the satisfaction to announce the arrival, in this county, of the famous Highland bull purchased from Mr Macniel of Colonsay by Mr Sitwell of Barmoor Castle, for two hundred guineas, and now the property of Sir Charles Ross of Balnagowan, Baronet. Sir Charles has long taken the lead in the rearing of black cattle; and, by judicious and spirited exertions, seems disposed to maintain his superiority. While mentioning individual merit, no one has a juster claim to honourable notice than Hugh Rose Esq. of Glasstullich. He has had a flock of South-down sheep in excellent keeping for some years on his property; and the very conspicuous manner in which he shows himself in the improvement of his estate, well entitles him to be numbered with those who deserve well of their country.——17*th November.*

Inverness-shire Quarterly Report.

The weather in harvest was generally favourable, and the crop was secured in good condition. Taking it as a whole, the crop must, however, be reported as below an average, both in point of quantity and quality; for though the wheat did not mildew, the grain is small, and much shrivelled, owing to the excessive heats of July, and the after wetness. A like remark is applicable to oats. Barley does not malt well, though the return is above par. Potatoes are an excellent crop, both as to quantity and quality, and will fully make up for the deficiency of oats.

At Beauly market, October 20th, there was an unusual show of cattle presented, and sales were brisk at tolerable prices. At the second market held yesterday, prices were at least 10 per cent. below those of the first market, whilst few sales were made even at that reduction.

There has been more work done this year at the Caledonian canal, than in any year since the commencement of that noble undertaking. Three locks on this side are quite finished, and a fourth is now in hand. The work is equally forward on the Fort-William side, though, at present, there is rather a want of hands; which is a sure sign that the people of the country are not destitute of employment. ——18*th November.*

Morayshire Quarterly Report.

After much interruption, and some partial damage by rain at the outset of harvest, the weather terminated favourably; and those who were latest of cutting down had their grain secured in the best condition. As wheat and barley are our early crops, so have they suffered more than oats. The former is still of pretty tolerable quality, compared to the accounts received from the north of England and south of Scotland; and the quantity will not fall much short of an average crop.

Barley is by no means fine, and little will be found suitable for the brewer, whose aim it must be to purchase the best and weightiest. It may therefore be supposed, that so much of this article being of inferior quality, with no vent for distillation, it will hang heavy on the farmer's hand. The millers complain that the oats do not yield well in meal, the price of which is 30s. per 9 stone Amsterdam. No sales of wheat have yet been made, nor are the sellers and buyers likely to be soon at one; for while the former naturally look for high prices, the latter are deterred by the probability of America opening her ports. The few country sales of barley presently going on are at 28s. to 34s. per boll.

The autumn has been peculiarly favourable for wheat-sowing; and perhaps a greater breadth was never laid down in this county.

Cattle have had ready sale, for last two months, at fair prices, to the breeder; and farmers are possessed of good stocks for feeding on turnips. This crop is abundant; and as distillery beef is not likely to interrupt the spring market for fat, it is probable that good prices will be obtained.——*Nov.* 18.

Dumfrieshire Quarterly Report.

The fine weather, which commenced in this county on the first day of May, continued throughout the whole season. All kinds of produce appeared plentiful; and the hay and corn harvests were early and good, and have filled the barn yards abundantly. The corn crops, however, do not prove so productive as might have been expected from the uncommonly good weather. Barley and oats do not exceed an average, either in quantity or quality; and in wheat, there is a remarkable deficiency. Almost the whole of the wheat, which appeared to grow so luxuriantly on the holms of Nith, Annan, and Esk, was destroyed by mildew, which appeared about the middle of July. The straw became brown, and some of it black and rotten; and where it was so, the grain was almost worth nothing. The best upon the holms was spotted in the straw, and scarce half the value of an ordinary crop. The wheat sown on the higher dry grounds was but little injured; yet, all is more or less inferior to an average

in quality. This, however, does not seem to discourage the farmer. A large quantity is sown for next year; and much of it being with unfilled wheat, it remains to see the effect of such on the ensuing crop. It is remarkable, that the wheat sown so late as the first week of last March, has turned out the best crop: it appears to have no defect, but what is owing to its being laid by the thunder showers in the end of July. From this it would appear, that mildew had attacked the corns before these late sown wheats were fully shot, or began to fill. It would also appear, that the effects of this malignant dew are beyond remedy from the hand of man. It no doubt arises from the destructive quality in the moisture of the fog or mists that lodge at night in the low or hollow grounds in the summer season; and that they are most hurtful, where the air is stagnated on such grounds by woods and hedges. Indeed, it seems to be agreed, that these improvements do not add to the quality of any species of grain, however they may add to the beauties of a country, and the protection of pastures. It is extremely probable, that it may have been from the effect of such mildews, that our forefathers, some centuries ago, when the low grounds were more covered with woods, abandoned those situations, and cultivated the higher grounds, where modern agriculturists would think, and probably find, their labour lost.

The pastures through the whole of this season, continued the most abundant that is remembered, and were so to the very tops of the mountains. This proved a providential circumstance, as otherwise the stocks of sheep, which were rendered, by the severe winter and spring, so extremely low in condition, would not probably have recovered in an ordinary season. It is to the same abundance that we have to attribute the increased demand which has occurred in the autumn for sheep and cattle, and which was so necessary for the farmer: no doubt, we may also attribute it to the additional employment given to the manufacturer, by the happy extension of trade to the Western world.——19*th November.*

Forfarshire Quarterly Report.

The harvest, in this county, was general about the last week of August, and finished about the middle of September; and, excepting some showery weather at the beginning, was favourable for securing the crop. The stack-yards present a more bulky appearance than last season; but it is apprehended that the produce of grain will not nearly correspond with the quantity of fodder.

Wheat is a failing crop. On tenacious soils it is best: on free, loamy, or gravelly land, after fallow, it suffered most from mildew, especially where the crop had a full and promising appearance. The quantity per acre can therefore scarcely be reckoned two thirds of an average crop. Few good samples of barley are to be seen, and oats are deficient in meal in many instances. Potatoes are a better crop than for several years past; and turnips have improved considerably on dry soils.

The favourable autumn has permitted a great quantity of wheat to be put in the ground in a satisfactory manner. Little is yet sown

in spring in this county; but as more turnips are now consumed by sheep than formerly, it is supposed the sowing at that season will considerably increase.

Land rent has been on the rise of late; and, considering the number of candidates always ready to offer when a farm is out of lease, it is presumed it will continue to do so, however problematical it may be to many agriculturists.——*Nov.* 21.

Letter from Glasgow, 21st November.

'ALTHOUGH the mildew, or blight, which has been so destructive to the wheat crop in other parts of the kingdom, had happily not visited this part of the country; and though, from the rich and showy appearance of this grain in the field, we had reason to expect a corresponding produce in the barn, we are sorry to say this expectation has not been realized. The farmers uniformly complain of a deficiency: some say the stack yields one fourth less than last year. Whilst, then, a defalcation in the quantity must be allowed, it is so far gratifying, to be enabled to state, that the quality is almost universally good. At such an early period, we have never before seen the new wheat brought to market in such a fine, dry condition, and so completely ready for the mill. It is so much so, that our bakers have even ventured to let it constitute the half of their grist, and are perfectly satisfied with the flour which they receive in return. This is a circumstance which we consider peculiarly fortunate at the present time, when the stock of old wheat, now become small, is daily getting less, and when almost every port of the continent of Europe, and of North America, whence we drew supplies, is shut against us. By means of it, we hope we shall be able to put off, without any material inconvenience, till a change for the better occur in the political world, and till the consequent considerable importations take place.

'There is not much barley grown in this neighbourhood. What we had, however, turns out tolerably well, both in quantity and quality. Of oats, the accounts are various. Those grown on rich soils do not meal so well as was expected, whilst those on the moorlands never produced better. Neither this grain, nor barley, have yet appeared in any quantity at market.

'Beans and peas, though not very productive, are generally fine in quality. Potatoes have certainly turned out well. It is true, the complaints with regard to quantity, which we mentioned in our last, are still made; but we look upon these as being only partially entitled to notice; and conceive, upon the whole, that we may safely pronounce the crop, in every respect, to have been good.

'The fine weather which we have experienced since our letter of the 19th August, has been peculiarly favourable for field operations. Every species of grain was got secured in the best possible condition; and the wheat seed has been made under the most favourable circumstances. We have never seen, in any past year, a larger quantity sown of this grain.

'During the last three months, the importations of wheat having been extremely limited, and the reports of the direful effects of mil-

dew throughout the kingdom, busily promulgated, the price of this grain has for some time been advancing. It has now reached a pretty high rate; and though we do not imagine it will go much higher, we cannot suppose (every thing considered) it will decline much, unless the embargo in the States, which will be the grand cause, is speedily removed.

'Since the date of our last, till within these few days, oats have been almost daily declining in price. They have now paused; nay, even a briskness has been excited, and a little advance perhaps obtained, on account of a considerable demand for the English market. But this demand will be but temporary; and, of course, we do not imagine that it will materially affect the price. If we receive the usual supplies from Ireland and the south of Scotland, we are of opinion that this grain will experience no considerable fluctuation for some time.

'Notwithstanding the distillation from malt is further prohibited, the price of barley still continues very high. Beans are also far above their value. We think that, ere long, both these sorts of grain must fall considerably.

Mid-Lothian Quarterly Report.

The dismal weather noticed in last Report, continued until the 15th of August, when a favourable change took place, just when the crop was become ready for the sickle; but the effects of four weeks of almost continued rain, were not to be entirely removed by any weather. The grain was beat down, and the straw rendered soft by being constantly drenched—a sure indication of an ungifty crop; of course, it is found that wheat is defective, both in quantity and quality. Oats, which promised to be more than commonly abundant, are not so deficient in quantity as in quality. Barley is small in the grain, but it is healthy and well got, and may be rated an average crop. On the other hand, the potato crop is universally good, and the quality excellent, and has been secured under the most healthy and favourable circumstances.

Considering the deplorable state of the fallows before harvest, the sowing of wheat has been executed far superior to what could have been expected, owing to the continuance of a favourable autumn. For the same reason, the crops in the high districts of the county were well ripened; and, what may appear rather singular, they are said to have been less affected by the previous bad weather than in the lower districts, probably owing to their not being so far advanced, and having had more time to recover the effects of such superabundant moisture, and likewise from less luxuriance.

Turnips are, in general, a partial crop, particularly upon heavy-bottomed land; upon genuine turnip soils, they have made great progress since harvest, and are a decent crop; their quality is firm and good, and the stock upon them are thriving well; but it is apprehended that much stock will be brought prematurely to market, for want of food to carry them on until that period when it will be most in demand.——22. *Nov.*

Extract of a Letter from Ayrshire.—Nov. 22.

'This, on the whole, has been one of the most extraordinary seasons ever remembered. From the 1st of May to the 1st of October, we had not one single cold day. It was uniformly mild and warm; and vegetation was carried on, through the whole of it, in the most remarkable manner; and, had it not been for the very heavy thunder-showers in July and August, this part of Scotland could never, perhaps, have boasted of so plentiful a crop. But these heavy rains have most grievously disappointed the hopes of the farmer, and of the county in general; which is the more to be lamented, Britain being at present, in a great measure, if not entirely, shut up within itself for its own supplies. The crop, I am afraid, must be pronounced a deficient one; and, as a proof of this, all kinds of provisions are rapidly rising in price. The grain market has not, though rising daily, yet found its level, which it would be happy for the country that it did soon, so as that people might begin to husband their stores in time. For there is no other visible means, just now, to make up the deficiency, but to use sparingly what we have; and a high price obliges people to do this, whether they be willing or not.

'Cattle markets have considerably revived of late; and, from the prices given, both by the dealers and the butchers, the graziers will be tolerably indemnified. The prices of butter and sweet-milk cheese have risen enormously. Butter is selling as high as 30s. the Ayrshire stone of 24 lib. English; and the cheese at 14s. and 15s. Potatoes 10s. and 12s. the boll. God help the poor annuitants, who are confined to a fixed sum.

'This state of things, as would naturally be expected, has continued, or rather increased, the rage and madness for farms. Scarce a farm is now set that does not bring three, four, and even five rents of the last set. This is a folly that must in time cure itself, and perhaps at no very distant period. The prices of all kinds of farm and handicraft work continue steady; nothing diminished, whatever they may be increased. After all, though this state of things may bear hard upon some individuals, it ought not to be looked upon with despondency, but, in my opinion, quite the reverse. I look upon it as a most certain and sure sign of the increasing population and prosperity of the country. The truth of this proposition must be obvious to every one who thinks coolly, and divested of passion; and the proof of it is confined within a very narrow compass. It is proved by the simple *demand* for the different articles of subsistence. It is the demand that in all cases regulates the price: and, while the price of labour, and the demand for subsistence continues, it is a sure sign that the nation is able to pay for them. This, again, rests upon our independence as a nation, and our national superiority, and thereby ultimately tends to inculcate and cherish a spirit of true patriotism in the breast of every wellwisher of his country. Let all your gloomy, peevish and discontented or inflammatory spirits think seriously upon this; and it will help to sooth their minds, and dispose them to bear the future,

and, I am afraid, approaching pressures, with more patience. They may be disposed to wreak their vengeance upon the poor farmer, but they will do it unjustly. The farmer does no more than is done by every description of mankind. He regulates his price by the demand; and that is regulated by the quantity in the market.'

Berwickshire Quarterly Report.

The corn fields, this season, exhibited a singular anomaly in the progress of ripening; the grain, in late situations, having been as soon ready for the sickle as in those which are usually esteemed the most early.

Harvest commenced about the middle of August, and met with no interruption till the end of that month, when a tract of damp, showery weather set in, which rendered the ingathering extremely tedious, and occasioned a great deal of extra labour and expense before the crop could be finally secured. This, however was accomplished, even in the hill district, before the middle of October; and, considering the adverse weather it had to encounter, the damage sustained has, upon the whole, been comparatively trifling.

The current wage of reapers engaged for the whole harvest, was 2s. 8d. per day for men, and 2s. 6d. for women, with victuals. But the crop having come forward all at once to the sickle, occasioned a temporary advance in the weekly wages, which, at that crisis, must have gone extravagantly high, but for the assistance derived from the Stirlingshire regiment of militia quartered in Berwick. Indeed, much praise is due to the Commander-in-chief for the liberal policy he has evinced in allowing the military to assist in securing the crops all over the kingdom.

The wheat crop proves fully as defective, both in quantity and quality, as appearances had led us to suspect. The maximum of produce will not much exceed twenty-four bushels per English acre, of a quality inferior to last year; and from this it descends by various gradations, to the lower point of the scale, where a bushel or two, little better than empty husks, is all that an acre affords.

Oats turn out less productive than last year, and of inferior quality, yielding about a sixteenth less meal. Barley, though not fine in quality, yields well per acre. Peas are a poor crop. Beans are good, and expected to be pretty gifty; but few of either have yet found their way to market.

Turnips, as stated in last report, are good upon all the true turnip soils, but so inferior upon cold, retentive bottomed land, that the crop altogether can hardly be reckoned an average one. The letting price by the week is, at present, 7d. for dinmonts, and 5d. for hog sheep.

The season, throughout, having proved extremely unfavourable to the working of wheat fallows, very few are to be met with in a perfectly clean state. Wheat sowing is, however, pretty well advanced, notwithstanding the repeated dashes of rain. The early sown fields were well executed; but, recently, they have been harrowed rather wet. Perhaps a fourth part of the wheat land still remains unseeded; and, from the drenched state of the fields at present,

must now lye over till the spring. Potatoes are a weighty crop, and good in quality. Cast ewes sold, in September, about 2s. 6d. a head above the rates of last year. Dinmonts also experienced an advance in price. Lean cattle have all along sold heavily. The demand for fat has, however, been pretty steady.

The wage of farm-servants has experienced a small reduction, at the recent hiring markets. Able ploughmen were engaged at from 6*l.* to 7*l.* for the half year, with board; female servants from 40s. to 50s. per do.——23*d November.*

Fifeshire Quarterly Report.

THAT fatal distemper, the mildew, has less or more affected all the wheat crops in this county. Everywhere that grain is inferior, but to a less degree in the south part of the county, than in the north; but, along the middle district, from St Andrews by Cupar to Auchtermuchty, this distemper has nearly destroyed the crop altogether, it being supposed that upwards of a thousand acres were so infected, as not to be worth even the expense of cutting down; the very straw being useless for any thing but litter. A cartload, drawn by two good horses, did not produce more than one boll of very poor, hungry grain. In other parts, it has not been so fatal. On some farms the wheat gives stook and firlot; but, in general, where the crop is least hurt, it will not average seven bolls per acre. This disease is known by black spots on the straw. Where these appeared early, total destruction followed; where they did not appear till the grain was in flower, and well formed, the effect was less pernicious, the grain being only a little shrivelled, and not quite so plump as it ought to be. The straw is also injured in a less degree. There is no smut where the seed was properly pickled.

The appearance of the straw where the disease prevails, is accurately described in Sir Joseph Banks's pamphlet. It is at least certain that the crop suffered exactly in proportion to the early appearance and number of these spots. It remains yet to find out what will prevent or cure the disease.

Oats, in some degree, were infected with the same disease, which is probably the cause of a less produce per acre, and also less meal than, from the appearance of the crop, was to be expected. The spots on the straw were exactly similar to those on wheat; but did not appear so early, nor yet so general; a small proportion only being infected. Barley is not infected at all with this disease; and peas are a good crop. ——23. *November.*

Letter from Falkirk, Nov. 23.

'THE weather, during last quarter, has been singularly favourable to rural operations; they are consequently far advanced, and well executed. Wheat is sown extensively, no material or lasting interruption having occurred to prevent it; and, in consequence of the numerous disappointments last year, it was early put into the ground. Notwithstanding this, and the very favourable weather also, it is by no means so far advanced as might have been expected; nor does it exhibit the luxuriant appearance, which that crop often does at this season, under similar circumstances. Harvest commenced under

very threatening appearances, from excessive wetness; and much injury was done to the growing crops at that period. Soon after, however, the weather became settled, and continued fine during the whole of that eventful process, which has seldom been more speedily or happily concluded. Reapers were more plenty, and cheaper than for several years past. The same remark will apply to farm-servants at the two last half-yearly hiring days. The wheat crop is the worst, both in quantity and quality, that we have had for several years. It certainly cannot be estimated at less than a fourth below an ordinary average. Barley is a pretty fair crop. Oats are bulky, but woefully deficient in meal. On my farm, potatoe-oats weigh less by 28 lib. per boll than last year, making a difference of about three pecks of meal. Beans are but a middling crop, although better than last year. Potatoes, a full crop, and of excellent quality. As a considerable part of the hay was well saved in this district, it appears at present plenty;—about 1s. 1d. per stone.

'Our grain-market, after having been brisk, with high prices, especially for wheat, has, for three weeks past, been gradually falling, and has become very flat. From the state of the crop, however, this is likely to be only a temporary occurrence. At the last tryst, there was considered to be about the usual quantity of cattle exhibited on the moor.—Prices about 25 *per cent.* higher than last year, and the demand so brisk, that, by the end of the second day, scarcely a beast was left.

'High as the rent of land is now generally considered to be, it appears still to rise. A small farm, as they all are in this neighbourhood, was let a few weeks ago at 6*l.* per acre, on a tack for fifteen years, which, with the property-tax, (now a-days, indeed, probably too inconsiderable an *item* to be reckoned on by dashing adventurers), makes it amount to six guineas; and if, as is often stated, the rent should be only one-third of the produce, it would require no less than eighteen guineas per acre to make things meet,—a sum, one would be apt to think, even beyond the most sanguine expectations of that progressive tide, now so generally calculated on for times coming.'

East-Lothian Quarterly Report.

The first part of harvest was singularly favourable for ripening, cutting and ingathering of the crop; but afterwards, the weather changing, became moist; and being attended with little wind, the processes peculiar to the season were executed with extreme difficulty, and at an increased expense. Most of the wheats were safely stacked; but a great many oats, and a proportion of barleys, beans and peas, were exposed to danger in the fields for several weeks, though ultimately they were properly secured in the yard, after having suffered considerably from shedding and sprouting, during the time they remained in the field. The stack-yards, generally speaking, are not so full as in ordinary years, owing to the smallness of the bean and pea crop, and to the softness of the straw of every grain; which caused a great compression of the stacks. As to quantity, wheat, peas and beans may be reported as greatly below par; and as to quality, every kind of grain is much inferior to the pro-

duce of last year, beans excepted. Turnips are a sort of average crop—by no means a full one; and potatoes are abundant, and of the best quality.

The wheat market, as might have been expected, has advanced considerably, whilst other grains have obtained inferior prices. Very few good oats are presented, most of the samples being fully as bad as in 1799. A full supply of grain has regularly appeared at Haddington, because the wholesale-merchants have hitherto scarcely been seen. This, of course, causes a kind of hand and mouth supply, which afterwards may be severely felt. A great deal of bad wheat has already been presented; but it is apprehended, that very little of what was really mildewed has yet been offered for sale. In fact, such wheats cannot find a merchant in the early part of the season, therefore are reserved for after-thrashing, when the demand is more urgent, and the purchasers not so nice. In point of return per acre, it is fully ascertained, that the produce will not exceed what was stated in the September Number of this Magazine.

A great breadth of wheat land has been sown this season; and a considerable increase will be made to it in the spring months, after the turnip crop is partially consumed. Field labour of every kind is far advanced; and the weather has been such as to admit its execution in the most husbandmanlike manner. Land-rent continues to advance; but the value of labour, when paid for in money, is rather diminished. In this district, however, labour is generally paid for in the necessaries of life, which assuredly is the best mode for both parties,—insuring regular subsistence to the labourer, and causing wages to rise or fall in a direct proportion with the market value of the articles which labourers receive in compensation for their labour.

At a meeting of the landed interest of this county on the 15th current, a motion was made by that active and intelligent young nobleman, Lord Binning; the substance of which was, that the heritors of the several parishes should meet with the tenantry, and endeavour to procure a general introduction of broad wheels, as being the alone way of procuring good roads, and saving the county from that immense expense necessary at this time for repairing them, when narrow wheels are in general use. It was objected by another person, that though the principle which guided the noble member was a good one, and deserved the most respectful approbation, it did not go so far as was required by the circumstances of the case, because that nothing short of a compulsory measure could bring about the use of broad wheels into this or any other district where narrow wheels were generally used; and it was added, that though wheels with five inch felloes would be highly beneficial to the roads, and not adverse to the interest of those who travelled them, yet they never would be used so long as narrow wheels were suffered to pass upon the same roads, as broad wheels could not travel in the ruts which narrow wheels had previously formed. It was therefore moved, in addition to his Lordship's motion, that a committee should be appointed to consider generally of the best method of introducing broad wheels, and to report an opinion thereupon to the next general

meeting of the county. The motion, thus amended, was unanimously agreed to, and, it is to be hoped, will ultimately produce important advantages to the country at large.

When noticing this branch of county business, a few reflections on the importance of the subject then under consideration may not be out of place. Broad wheels are pretty common in England; and the Legislature, sensible of their advantage, have, in every case, reduced the rate of tolls one half in their favour. This reduction of turnpike duty, however, cannot procure their introduction into any county or district where narrow wheels are generally used, because it is, in several respects, impracticable to travel roads with carriages upon broad wheels, so long as the majority of carriages are mounted upon narrow ones. The latter make a rut or track, into which the former cannot go; hence broad wheels are impeded at every step, and made to go so unsteadily that the increased labour much more than compensates the benefit of a reduced turnpike duty. The case would be very different, were all carriages mounted upon broad wheels; because the track or rut would be of an equal size, while it would not be so deep, and, of course, not so detrimental to the roads. From trials made, we are perfectly satisfied that carriages upon broad wheels are drawn with equal ease upon a well made road, as those upon narrow wheels; and, in some cases—say when a road is newly covered with materials, with much greater facility. This being the fact, all that is required to bring them into general use, is a law, which enacts, that no more narrow wheels shall be made; and that, after a certain period, say five years, which would allow the present stock of wheels to be worn out, such should be absolutely prohibited from passing over the roads. Something of this kind is absolutely called for; otherwise broad wheels can never be introduced into any district where those of a narrow construction are generally used.—29. *Nov.*

ENGLAND.

Yorkshire Quarterly Report.

The thrashing of the wheat crop fully confirms the report of last quarter on the subject of mildew, very few samples being fit for market; so that there is a most unusual variety in prices of this article, from 7s. to 15s. per bushel in the same market day. Barley is good; Oats indifferent; Rye abundant on the few acres that are grown; Beans and Peas very middling crops, the latter having completely failed in many instances. It is likely that more barley and rye will be made use of for bread than usual. A mixture of these with wheat, will be found wholesome and economical in the present state of things.

The market for all sorts of grain is now perhaps at a higher ratio than was ever before known in this county, during the month of *November*,—a period in which the grower has his supplies to raise for payment of rent, wages, &c., and, of course, when the markets of grain are usually full supplied; yet cattle and shambles meat are lower than usual. The inference is, that the country at large is in a

most unprosperous state. This island is ever most prosperous, when grain is *moderate*,, and shambles meat *dear*. There cannot exist a more infallible criterion.

Stocks of sheep seem healthy, and stand well as yet; considerable prices are given for turnips for their winter support. Flocks are selling off at low prices; so that, on the whole, little encouragement is holden out to the owners. Even the wools, if not fine and short, are at a low ebb. The last growth of hemp and flax, is likely to be disposed of at very advanced prices.

The present state of the weather is favourable to the feeding of the after grasses, which are exuberant; consequently, a considerable reserve will be made of winter food of all kinds for cattle. This circumstance would usually decide that the price of live stock is not too discouraging. It is understood that the stock of old grain of every description is nearly exhausted. Of malt, very little indeed is reported to remain on hand.—15. *Nov.*

Letter from Wales, 17. November.

'We had unsettled weather in the beginning of harvest, and little of the crop was carried till about the 15th August, when the weather took up, and did not give us a shower till Tuesday the 30th; by which time, nearly all the wheat and oats were safely stacked. But on that day the weather broke again; after which we had a fortnight of almost constant rain; and the weather being mild, the corn that was out suffered greatly; barley, in particular, where the enclosures were small (which is the case in most of this country), grew very fast, and lost its colour; of course, we have a great quantity of that grain damaged, and no market for it at any price. Some wheat and oats were not got in till after the rain, and are of little value. No grain whatever sells so ill as grown wheat; but the great bulk being well got, we have little reason for complaint. We had, in general, a fair average crop; but the report is, that the wheat does not weigh so well as last year. What I have thrashed has been for seed, and of course the best. I have not sent any to the mill; therefore, cannot say how it weighs; but it looks well, and yields well to the stook. Our markets have advanced considerably since harvest for grain of all kinds. Wheat is now as high as 32s. for 168 pounds; oats, of good quality, from 30s. to 32s.; good barley 48s. and 50s. per quarter. Turnips are but an indifferent crop, having failed in many places. They will be the more missed, as much of the barley straw is of bad quality; but our hay was good, and well got, which is a great matter. We have little demand for cattle; but the prices are low for both fat and lean stock, either cattle or sheep. Butcher meat is low in price, which often happens at this season of the year; yet butter and cheese never were known to sell better. Pigs are a drug. Our iron works, which for some time past have been dull, now go on with great spirit, and trade seems again to flourish.'—17. *Nov.*

Northumberland Quarterly Report.

The weather, during the greatest part of August, being exceedingly favourable for harvest-work, grain of every description became ripe

much earlier than was expected; and whatever was carried in the month of Auguſt, was got in excellent condition; but, after that period, the corns which remained in the field were much injured by the changeable and wet weather which continued through September and October; and many of the ſummer-fallows on moiſt ſoils were thereby prevented from being ſown with wheat in proper ſeaſon.

In laſt report it was ſtated, that apprehenſions prevailed of a conſiderable failure in the wheat crop, from the compound diſeaſes of the yellow maggot, and the ruſt or fungus on the ſtraw. Theſe diſeaſes have proved more fatal than was then expected. In ſeveral places, the crops have been thought ſcarcely worth reaping; and, in others, have been mown and carried for litter into the dung-yard. The general opinion ſeems to be, that the produce will not be much more than half an average crop.

There are a few inſtances of crops that have eſcaped,—probably *from ſituation*, or the TIME OF FLOWERING. To note them, may be gratifying to the curious reader, and probably uſeful, in lending ſome aid towards inveſtigating the cauſe.

In Holy Iſland, which is ſurrounded by the ſea, the wheat crops were not injured. At Amble, a field of wheat that had a projecting point into the ſea, was wholly affected,—except this point, which was perfectly free from diſeaſe. To the north of Whitby, in Yorkſhire, the crops of wheat along the ſea-coaſt, on the top of the very high allum rocks, have eſcaped; but, as they recede from the ſhore, the diſeaſe appeared. All theſe ſituations are not only adjoining the ſea, but are perfectly open to the morning ſun, and to every breeze that blows. There are alſo ſome inſtances of crops having eſcaped in mountainous ſituations, and ſimilar expoſures. The real ſpring wheat ſown in March was in general very bad; but what was ſown the latter end of April, and beginning of May, eſcaped all diſeaſe. The barley crop is abundant; oats about an average; but the grains of both are ſmaller than uſual. Beans and peas are ſomething under an average. Turnips will prove a deficient crop, having ceaſed to grow at a much earlier period than was ever remembered. In fact, this root has made little progreſs ſince the middle of September. Decent crops are ſelling from 7l. to 9l. an acre. Potatoes are an abundant crop, and good in quality.—*Nov.* 19.

Norfolk Quarterly Report.

DURING the month of Auguſt the weather continued very fine, and the wheat harveſt, generally ſpeaking, was well ended. Although the crop of that grain was much injured by mildew, the produce far exceeds what farmers expected before the thraſhing ſeaſon commenced; and it is now pretty well aſcertained, that the deficiency will not exceed one fourth of our uſual produce, though no doubt the quality is inferior, and may be ſaid to weigh leſs, by 4 lib. in the buſhel, than laſt year. Peas and oats were got dry. The breadth of the former, ſown, was narrow, and the produce far ſhort of an average crop. The breadth of the latter was very extenſive, the produce abundant, and the quality good. With regard to barley, it is calculated that not above one third of it was duly harveſted, as September ſet in with rain, and continued wet to the end of the

month; so the latter part of barley harveſt was finiſhed imperfectly, much of the grain being diſcoloured and ſprouted. Wheat-ſowing commenced early, the land being in a good ſtate of cultivation for receiving the ſeed. The planting of that valuable grain has been chiefly finiſhed during the three paſt weeks. Turnips have not made much progreſs in growth ſince September, owing to the immenſe quantity of rain which fell at that time. The average of the county cannot be called more than a half crop. Store ſheep have not ſold ſo high as they did before harveſt; and there appears to be a difference of full 3 *per cent.* in their value. Scotch cattle in forward condition are ſelling at as high prices as known for many preceding years. Grain of every deſcription has gradually advanced in price ſince the concluſion of harveſt.——*Nov.* 19.

Letter from the East Riding of Yorkshire, 22d November.

'The harveſt in this diſtrict was rather teazing, yet tolerably good; and the crops of grain were in general ſecured in fair condition, by thoſe who were poſſeſſed of a moderate ſhare of patience and exertion: where theſe qualities were wanting, it was carried in bad condition. The crops of wheat, oats and beans were, I think, injured by the hot weather, and ſubſequent heavy rains, in the month of July. Wheat ſuffered ſeverely, particularly thoſe fields that had been ſown late upon ſoils rich either by nature or art; they being ſo much mildewed that the ſtraw was almoſt black: but where it was not mildewed, it falls full one-fourth ſhort of laſt year's crop in quantity, and vaſtly inferior in quality, the weight being 5 to 8 lib. per buſhel leſs on the beſt qualities, whilſt the worſt is ſo bad that it is not fit for any thing but hogs and poultry, and can't be much more than half of it cleared from the ſtraw, where machines are not uſed: even where they are, there is a great deal of it remains in the ear. I believe the crop, taken altogether in this diſtrict, will be one-third ſhort of laſt year. There has ſcarcely been any oats thraſhed yet with us; therefore, can't ſay much reſpecting the yield; but they will be much ſmaller than laſt year, and, I think, will not be ſo good a crop. Beans are not more than half an average crop, though of prime quality. Barley turns out well; but the quality and condition is very variable, ſome being much ſtained in the field, and others much heated in the ſtack. Flax is a fair crop this year, and the quality in general good. The price is high, ſay 14s. to 20s. per ſtone of 14 lib. Seed is 105s. to 110s. per quarter at the oil-mills, and 120s. to 140s. per ditto for ſowing, and expected higher. Potatoes have turned up a fair crop in general, and ſell readily at 9s. per tub of 14 pecks for kidneys. Fat cattle have hitherto been plentiful, and ſell at 6s. to 7s. 6d. per ſtone of 14 lib. ſink. Lean cattle ſomething higher than laſt year; pigs full 50 *per cent.*, and ſtore ſheep 20 and 25 *per cent.* higher than laſt year. Grain is now ſelling,—Wheat at 90s. to 105s. per quarter; old, 110s. to 112s. per ditto. Oats, new, none: Old, 32s. to 34s. or 40s. Beans, 70s to 73s. Barley, 40s. to 50s. Rape ſeed, 50*l.* per laſt of 10 quarters.

'As to the diſeaſes which attacked wheats in this diſtrict, I can't

say much, my ideas not being sufficiently comprehensive to account for them rationally. Thus much I do know, and can with confidence assert, that mildew was not the sole cause of failure, since the grain is very defective where the straw is as bright as I ever saw any in my life; yet, although the straw is bright in its colour, the foliage did not strip off and fall to the ground, as when it arrives more gradually at full maturity. My opinion is, that all grain ripened prematurely. And I think, during the bright hot days in the latter part of June and early part of July, the earth had been so much heated by the rays of the sun, that the heavy showers which fell in July, created such a high fermentation as to cause putrefaction in all, or nearly all, the fibres of the roots of grain that were approaching fast to puberty. The nearer it was to that state, the less it was injured; as was fully evinced near the sea-coast, in the eastern part of this Riding, the harvest being *naturally* earlier there than in situations more remote from the sea, by eight or ten days; and there the wheat is of very superior quality for this year, late sown fields excepted, which are mildewed. I can't think, as Mr John Egremont does, that mildew is caused by frosty nights, and bright sunny days, as I could not perceive that there was any symptom of frost immediately preceding the disease this year. On the contrary, the nights were uncommonly sultry and hot; therefore the analogical philosophy held forth in his pamphlet on mildew, falls to the ground.

'The quantity of wheat sown here this year is much the same as in former years. Sowing wheat after turnips is exploded amongst the turnip growers in this Riding. They say, they can't get it good for any thing, comparatively speaking; and that they are better paid by sowing barley and seeds. Our autumnal sown wheat went into the ground very favourably, and looks well, where due attention has been paid to cleaning, dunging, and draining the land. Harvest being so early finished, there has been much time for getting a good breadth of land ploughed, and laid dry for winter; which has been done, in many instances, in most excellent order.'

Letter from London, 22d November.

'At the date of last report, the harvest was begun in the early districts; but, even in these, it had not made much progress before the rains set in. The crops have suffered more or less over the whole of Great Britain and Ireland, from being badly harvested.

'Wheat, besides the injury sustained during harvest, had previously received a severe check in its tender state, from mildew and blight, which greatly deteriorated its quality, and also diminished the quantity. It is generally reported to be a fourth part deficient of an average crop, but it has been lately found to be more productive from the straw than was at first expected.

'The growth of barley is thought to be abundant, but its quality very various, and much of it unfit for malting. It turns out, however, more deficient than was looked for, although the first opinions of its quality prove pretty correct.

'The crop of oats, from increased cultivation, was thought to be very large; but they are found to yield very badly from the straw, and are of light and poor quality. Beans and peas are both greatly failing crops, but rye has been abundant. These are all of good quality.

'The untoward season for wheat-seeding, has prevented some farmers from getting to their barn operations (although those who were active got their work over in very fine order), which has caused the supplies of new corn to come to this market rather irregularly; but they have been, upon the whole, sufficient; and, immediately after harvest, as well as at the present moment, the quantity of wheat appears equal to what it has been in the seasons of greatest plenty.

'There has been rather a want of barley and oats (notwithstanding the high prices), which is probably owing to the stock not yet requiring the straw, and which may be probably soon made up. A few cargoes of grain of all kinds, have been smuggled over from the Continent; and, if prices encourage, they may continue to come in same manner in the spring. It is however supposed, that this market will be well supplied, during winter, with wheat from the home counties; and that, with the assistance of Ireland, there will be abundance of oats for our consumption.

'As the distilleries are to continue to work on sugar till forty days after the meeting of Parliament, it is likely that inferior barleys will be so cheap an article, as to induce their adoption in feeding, in place of the grains which the distillers were accustomed to furnish.

'The present season may be expected to produce frequent fluctuations in prices of corn of all kinds. They have already been very high, and seem now to give way to supplies; but it is doubtful if they have seen their lowest, even for the present. So many external as well as internal causes, may, in such times, affect them, that opinions formed on the soundest principles to-day, may be overturned in a week, and are therefore not worth offering.'

Cumberland Quarterly Report.

THE weather, during the six last months, though sometimes rainy and tempestuous, has in general been favourable to the labours of the husbandman. The quantity of rain in June was TWO inches; number of wet days (meaning those days when *any* rain, snow or hail fell) twelve. In July, three inches two tenths; wet days, seventeen. In August, four inches; wet days, eighteen. In September, TWO inches; wet days, seventeen. In October, five inches one tenth, of which one inch two tenths fell in one storm, on the 25th day of that month; wet days, twenty-two. Hay and corn harvests were unusually fine. The weather was rather precarious at the conclusion of the hay harvest; but corn was secured, even in the *most upland* situations, without any injury. Hay, particularly that from sown grasses, quantity and quality considered, is above an average. The quality of the meadow hay was injured by the weather; the quantity very great. Cumberland has great cause to be thankful to Providence for almost wholly withholding those truly awful scourges, mildew and blight, which have so much injured

the crops in ſome of the moſt fertile parts of theſe iſlands. Wheat is much better than at one period could have been expected. Heavy falls of rain during the flowering ſeaſon have occaſioned the diſeaſe termed by botaniſts *Abortus*; in conſequence of which, too many have to complain of lean and hungry grain. Smut has partially affected it. At the ſame time, it is to be doubted whether it is more than one eighth below our uſual average. Barley, owing to the exceſſively hot ſummer, the thermometer frequently being at 70 or upwards, and once at 81, is by no means a good crop; the *early* and very *late ſown* crops are the beſt. Oats are ſmall and ſhrivelled. Some ſown *ſo early as the 22d* of February, are not HALF a crop; nor can any *decided preference* be given to thoſe which were ſown in the month of *March*, when compared with thoſe ſown in *April*. Turnips are a very poor crop. Potatoes uniformly excellent. The produce of one acre is in ſome inſtances 500 buſhels Wincheſter; and many ſingle potatoes weighed four and five pounds.

The Workington Agricultural Meeting was well attended; though the concourſe of members would have been more numerous, had the weather been more favourable. A piece of plate was voted to J. C. Curwen Eſq. Preſident, on account of his ſpirited exertions in promoting the intereſts of agriculture. His experiments on the long and ſhort-horned, the Suſſex, Hertfordſhire, Glamorgan, Kyloe and Galloway breed of cattle, conducted with a view to diſcover which of theſe afford the greateſt return for the leaſt quantity conſumed, are extremely intereſting. The Preſident holds a ſituation of great reſpectability, and merits great praiſe for his endeavours to promote the agriculture of Cumberland. It requires a noble independence and ſtrength of mind, to act with ſteady impartiality towards the members of the ſociety at large, and to ſacrifice the feelings of *private friendſhip* and *intereſt* to thoſe of *juſtice* and public utility. If he continues to introduce the improvements of other counties into this one; to impreſs upon the rich the importance of granting leaſes, and upon the poor the advantages reſulting from induſtry and economy;—if he invariably remembers the juſt ſentiment of unfortunate Dido—*Tros Tyriuſque mihi nullo diſcrimine agetur*,—every individual in the Society muſt rejoice to ſee his labours rewarded. Thoſe in the leaſt acquainted with the backward ſtate of agriculture in Cumberland, muſt rejoice to find men of ſtrong intellects, and a patriotic ſpirit, particularly in the vicinity of Carliſle and Penrith, expending a very conſiderable capital in the improvement of their landed property, and affording a ſtriking example of the neceſſity and *utility* of relinquiſhing the paths of Prejudice and Cuſtom, and following thoſe of Reaſon, Truth, and Experience. We have too much reaſon to fear, leſt that timid and *parſimonious* ſpirit, which has hitherto cramped every effort at improvement, ſhould continue to prevent the occupiers of our recently encloſed waſtes from availing themſelves of the increaſe of agricultural knowledge.——23. *November.*

Eſſex Quarterly Report.

WITH but few exceptions, the weather, in harveſt, was generally fine for moſt grain; though ſome ſmall quantities of barley ſuffered ſeverely from the rains, towards the concluſion; inſomuch, that there

is a difference in value of more than 20s. per quarter; whilst many of those that were well harvested, as well as wheat, are of coarse quality, and very light. Barley may be reported as about an average crop, as to quantity; but wheat is not more than two-thirds, being very unproductive, from nearly a general blight. Peas are short of half a crop, many having been ploughed up, from the ravages of a number of insects, which destroyed a large quantity in the early part of the season; and those that escaped were weak plants. Not many beans are sown in this county; but those that were sown are reasonably productive. Oats, in general, are a pretty good crop, and expected to yield a reasonable quantity per acre, but not of so fine a quality as usual. The young wheats, from lateness in sowing, are rather weak, but the plant is tolerably healthy, which, with the openness of the season, may bring about their usual strength. Rye and tares make a fair appearance on the ground; but tares are only sown in small quantities, from the dearness and deficiency of seed. Clover seed is generally bad; the forward crop having yielded little seed, whilst the latter was spoiled by the heavy rains in October. Trefoil not a great crop, but the seed good. Rapeseed not much grown; but, where cultivated, is of good quality. With respect to thrashing, farmers in general have been very active; and the present season being fine for the tillage of land, that part of agriculture is in a state of great forwardness. Stock sheep are unusually cheap, from the failure of the turnip crop, which is very late. The first plants were taken off by the fly, and they had few showers afterwards to invigorate them, till the season was too far advanced. Neat cattle of every description are cheap; and good horses sell freely.—*24th Nov.*

NOTICES TO CORRESPONDENTS

We are extremely sorry that the Reports from Lincoln, Aberdeen, Wigton, Tweeddale, West Stirling and Langholm, are not inserted. It was out of our power to find room for these Reports, and also for the state of markets in London and Glasgow, notwithstanding that almost every report and letter of intelligence was considerably abridged. We trust our reporters will be so kind as excuse these omissions. Want of room, also, prevents our making our acknowledgements for the numerous and valuable communications lately received.

Judgment is not yet pronounced on the several essays offered in competition for the premium offered in our June Number. It is meant to submit the whole of them to the consideration of the respectable gentleman who did us the honour of stimulating our numerous correspondents to discuss a question confessedly of great importance to the interests of agriculture, by proposing a premium to the person who discussed it with the greatest ability.

No. XXXVII. will be published on Monday, 6th March, 1809.

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ERRATUM *(but only in some copies.)*

P. 531. l. 5. *for*, Indeed, there are no farmers, properly so called, in either of the countries,—*read*, Indeed, there are few farmers, properly so called, in these countries.

END OF VOLUME NINTH.

D. Willison, Printer, Edinburgh.]